



# **ANNUAL REPORT**

**April 2005 - March 2006**

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## **VISION**

AME Foundation subscribes to a global, socio-political and economic system, which affords just and equitable opportunity for all, in the development process. AMEF recognises that in the prevailing circumstances, the worst affected are a large number of disadvantaged families dependent on farming in rain fed areas, with a future rapidly going out of their control. AMEF believes that sustainable livelihoods for all are attainable through a systematic ecological approach to the development process.

## **MISSION**

AME Foundation is committed to realising its vision through a holistic perspective in all its endeavours. AMEF will work towards sustainable livelihoods through innovations in technology, harnessing indigenous and advanced knowledge systems. AMEF will promote sustainable agriculture and natural resource management systems that address issues of ecological degradation. These developments will be disseminated widely for empowering the resource-poor and disadvantaged farm families and communities. In generating these alternatives, AMEF will integrate the needs of social development including mainstreaming of gender and equity issues. These efforts will be complemented with the facilitation of collaborative and participatory processes for both effective dissemination and advocacy.

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## **ACKNOWLEDGEMENTS**

We are glad to present the Annual Report of AME Foundation for the year April 2005 - March 2006. This Report is a detailed account of the activities and important achievements of the Foundation, which took place during the year, in association with farmers, ENPs and NGO associates.

For the Foundation as a whole, the year has been marked by significant progress towards largely realising the goals. This was possible with the help of the supporting agencies FAO, KAWAD, ILEIA and DST. We gratefully acknowledge their help.

Throughout the year there has been a steady progress towards the goal of achieving sustainability of yields in the drylands. This effort of promoting sustainable agriculture with the participation of thousands of dryland farmers has benefited from all the stakeholders including farmers, partner NGOs and the development departments. The Scientists of Agricultural Universities and Research Stations, Krishi Vijnana Kendras and the Officers of Agricultural, Horticultural, Forestry, Animal Husbandry and other development departments along with input agencies have supported our activities. We sincerely thank all of them.

We gratefully acknowledge the participation of farmers in developing SA models and spread the knowledge of sustainable agriculture to the large number of other farmers. Their enthusiastic participation has given us opportunities to learn many new things. We are grateful to all our farmers for making it a rich learning experience. We appreciate the hard work and support of all our partners across three states in operationalising sustainable agriculture. The enthusiasm of farmers and partners encourages us to double up our efforts and assist many more resource poor farmers.

**Arun Balamatti**  
Executive Director

## **PREFACE**

With the end of the Financial Year 2005-06, AMEF turned four years. Building on the rich experience in the project phase, the Foundation is witnessing further growth under the guidance of the Trustees.

The major emphasis during the year 2005-06 was on developing strategies for operationalising the systematics of Sustainable Agriculture. Efforts to combine sets of key operations were made leading to better Natural Resource Management (NRM) and Natural Resource Utilisation (NRU) in the drylands.

The Foundation established a new Area Unit in Dharmapuri District of Tamil Nadu. Among many other innovative programmes implemented during the year, the Fellowship course on “Operationalising Sustainable Agriculture” stood out as the highlight of the year.

We are pleased to present a detailed account of AMEF’s efforts in cluster villages and in association with partner NGOs in the Annual Report for 2005-06.

## ACRONYMS and ABBREVIATIONS

|          |   |
|----------|---|
| AMEF     | AME Foundation  |
| AAO      | Assistant Administrative Officer                                    |
| ACTS     | Action for Community Service  |
| AESA     | Agro Eco System Analysis  |
| AIR      | All India Radio   |
| ANTWA    | Andhra Pradesh Network for Training women in Agriculture            |
| APCOT    | Andhra Pradesh Cotton Network                                       |
| APFaMGS  | Andhra Pradesh Farmers' Managed Groundwater System                  |
| APO      | Area Project Officer  |
| APRLP    | Andhra Pradesh Rural Livelihoods Programme                          |
| APRRM    | Andhra Pradesh Rural Reconstruction Mission                         |
| AU       | Area Units  |
| AUC      | Area Unit Coordinator   |
| BBE      | Ballot Box Exercise   |
| BEL      | Bellary   |
| BIRD-K   | BAIF Institute of Rural Development - Karnataka                     |
| BIRDS    | Bijapur Integrated Rural Development Society                        |
| BJP      | Bijapur   |
| CAD      | Community Action For Development                                    |
| CBO      | Community Based Organisations                                       |
| CDW      | Curriculum Development Workshop                                     |
| CIPMC    | Central Integrated Pest Management Center                           |
| CMRC     | Community Managed Resource Centre                                   |
| CPO      | Central Programme Officer   |
| CSWCR&TI | Central Soil and Water Conservation Research and Training Institute |
| CU       | Central Unit  |
| DAS      | Days after Sowing   |
| DDS      | Deccan Development Society  |
| DFID     | Department For International Development                            |
| DLH      | Dry Land Horticulture   |
| DMI      | Society for Daughters of Marry Immaculate and Collaborators         |
| DPAP     | Drought Prone Area Project  |
| DPI      | Dharmapuri  |
| DPIP     | District Poverty Initiatives Project                                |
| DRCSC    | Development Research Communication and Service Centre               |
| DSERT    | Department of State Educational Research and Training               |
| DST      | Department of Science and Technology                                |
| ENP      | Eco-Network Partner   |
| ETV      | <i>Eenadu</i> Television  |
| FAO      | Food and Agriculture Organisation                                   |
| FFS      | Farmers' Field School   |
| FYM      | Farm Yard Manure  |
| GD       | Group Dynamics  |
| GDLP     | Greening the Dryland Programme                                      |
| GEC      | Gender and Equity Concerns  |
| GUARD    | Group For Urban and Rural Development                               |
| GVS-T    | Grameena Vikas Samithi, Tirupathi                                   |
| iACT     | International Academy for Creative Teaching                         |
| ICCOA    | International Competence Centre For Organic Agriculture             |

|         |  |
|---------|--|
| ICM     | Integrated Crop Management                                     |
| ICRISAT | International Crop Research Institute for Semi Arid Tropics    |
| IFS     | Integrated Farming Systems                                     |
| INGRID  | Indias New Group for Raichur's Integrated Development          |
| INM     | Integrated Nutrient Management                                 |
| IPM     | Integrated Pest Management                                     |
| IRDO    | Integrated Rural Development Organisation                      |
| ISEER   | Indian Society For Environmental Education and Research        |
| IZ      | Insect Zoo   |
| KAWAD   | Karnataka Watershed Development Project                        |
| KVK     | Krishi Vijnana Kendra  |
| LEISA   | Low External Input Sustainable Agriculture                     |
| LTE     | Long Term Experiments  |
| MAD     | Madanapalle  |
| MHB     | Mahabubnagar   |
| MYRADA  | Mysore Resettlement And Development Agency                     |
| NABARD  | National Bank for Agriculture and Rural Development            |
| NFE     | Non Formal Education   |
| NGO     | Non-Government Organisation                                    |
| NIRD    | National Institute of Rural Development                        |
| NRM     | Natural Resource Management                                    |
| NRU     | Natural Resource Utilisation                                   |
| POWER   | People Organization for Wasteland and Environment Regeneration |
| PPDS    | Poor People Development Society                                |
| PRA     | Participatory Rural Appraisal                                  |
| PSB     | Phosphate Solubilising Bacteria                                |
| PSSS    | Perambalur Social Service Society                              |
| PTD     | Participatory Technology Development                           |
| RARS    | Regional Agricultural Research Station                         |
| RCH     | Raichur  |
| SA      | Sustainable Agriculture  |
| SAN     | Sustainable Agriculture Network                                |
| SDDPA   | Society for Development of Drought Prone Area                  |
| SEEMA   | Society for Empowerment in Environment Matters and Agriculture |
| SHG     | Self Help Groups   |
| SLTP    | Season Long Training of Trainers Programme                     |
| SMGAS   | Sarvodaya Mahila Gramina Abhivrudhi Society                    |
| SRDS    | Sankalpa Rural Developmental Society                           |
| SRI     | System of Rice Intensification                                 |
| SS      | Short Study  |
| SWARD   | Society for Women Agriculture and Rural Development            |
| TIR     | Tiruchi  |
| TNAU    | Tamil Nadu Agriculture University                              |
| ToF     | Training of Facilitators                                       |
| ToT     | Training of Trainers   |
| UAS     | University of Agricultural Sciences                            |
| WDS     | Watershed Development Society                                  |

## EXECUTIVE SUMMARY

The year 2005-06 has been an eventful year for AME Foundation, in many ways. For an organisation striving to promote sustainable agriculture in the drylands, it was a rare rainfall year that brought back hope in agriculture for farmers. While the farmers could harvest decent yields after over four years of drought-like period, a bigger relief was the filling up of tanks after years, adequate drinking water and fodder availability.

It was the first full year of partnership with the FAO. As a learning organisation every opportunity is accepted with open mind. There has been a significant improvement on programme front in strategising SA promotion. The focus now encompasses natural resource management and utilisation with specific tasks addressing on-farm rainwater management, improving soil productivity and cropping systems as the pre-requisites for sustainable yields. Building off-farm environmental support to agriculture and promoting income generation activities along with gender and equity concerns forms a comprehensive approach to livelihood improvement efforts. A series of capacity building events have enabled the staff of AMEF and the partner NGOs to implement sets of combination of SA practices.

As a resource agency it is gratifying to note that the number of partner NGOs is growing by the day. AMEF could join hands with 30 partners during the year. They are termed as Eco-Network Partners (ENP) and are involved in scaling up of SA promotion activities. About 800 farmers were being reached by AMEF staff in the efforts to develop eco-farming base in cluster villages. The purpose of eco-farming base is to develop visible examples of SA as a means of hands-on training opportunity for the AMEF staff and as a learning ground for the staff and farmers of ENPs. The ENPs, in turn, have reached about 3000 farmers with AMEF support and another 3000 farmers, on their own. In all, the coverage has been about 200 groups of farmers in 200 villages across 11 districts in the three states through seven AMEF Area Units.

The on-farm rainwater management activities widely accepted by the farmers are, deep ploughing, sowing across the slopes, bunding and bund repair. Mixed cropping, use of legumes as border and intercrops and use of bio fertilisers were the common activities adopted by the farmers in order to improve soil productivity. The cropping system improvement activities included use of good quality seeds and improved varieties and maintaining adequate plant density. The significant activity in the year, however, has been the effort to promote biomass production on field bunds. Various biomass species meant for converting into organic matter have been promoted in large numbers across Area Units. Although the results of such a large scale biomass promotion effort would be seen only after a couple of years, the efforts have been supported by good rains in all the areas. In the crop-based programmes, attempts have been made to look for suitable varieties. Different varieties of groundnut, sorghum, bajra, maize and sunflower were tried and tested for their performance. FFS was conducted in castor, cotton and tomato whereas PTD was done in castor, onion and pomegranate. System of Rice Intensification (SRI) is another programme becoming popular among farmers in Mahbubnagar, Madanapalle and Tiruchy. AMEF emphasis in SRI is on water conservation and reducing the production costs by way of reduction in seed rate and use of fertilisers.

FFS received special attention during the year. While 8 AMEF staff and one ENP staff got trained in the season-long ToT on IPM in vegetables, organised by FAO in Andhra Pradesh, AMEF adopted the process to train another 4 AMEF and 17 ENP staff by organising a short duration ToF in Kolar district.

Pursuing the efforts of addressing gender and equity concerns, promotion of simple agricultural tools to reduce drudgery, kitchen gardening, nursery raising and production of bio agents witnessed enthusiastic participation by women farmers.

A special programme of popularising tree-based farming system was introduced to assist four ENPs in association with BIRD K. Vision building study tours, celebration of Green Festival to involve the village community in tree planting and the training of village youth under 'Yuvachetana' triggered lot of enthusiasm among the farmers, particularly the women and the youth.

The first batch of participants completed a Fellowship Course on 'Operationalising SA'. The programme received acclaim from many quarters including FAO.

Developing linkages, documentation and dissemination efforts continue to add strength to the programmes. The number of LEISA India subscribers has gone past 6000 registering a 32 per cent increase in the last year. Four issues of LEISA India, two guidelines and 7 fact sheets were produced.

The year 2005-06 also witnessed conclusion of projects like RNE, KAWAD and APCOT.

# 1. INTRODUCTION

AMEF Foundation is a development-oriented, non-government organization, devoted to promoting ecological farming alternatives among small and marginal farmers engaged in dry land farming. The twin objectives of AMEF are improving the livelihoods of the farm families in dry lands and addressing the environmental concerns. The focus, thus, include improvement and promotion of alternative farming practices to bolster food security, strengthen livelihoods, address environment issues and promote more sustainable agricultural practices. It adopts a participatory approach that recognises local knowledge systems and involves local farmers' groups, community-based organisations (CBOs), non-government organisations (NGOs), government departments and other biomass actors in the development process. Promoting Natural Resource Management (NRM) and Natural Resource Utilisation (NRU) with sensitivity to gender, youth and equity concerns are the major features of the organisation.

Under the AMEF-FAO Partnership Project, specific tasks have been formulated, last year, to be pursued by the Area Units. The tasks, in general, are applicable to SA promotion efforts of the Foundation in all ongoing projects. The tasks, in broad terms, are as follows:

**1. Creating an eco farming base** – Working in clusters of villages, with groups of farmers, develop ecologically sound farming systems, which will serve in preparing the staff in practical work experience and in providing effective learning situations for the NGO and others in their training. Further, it will serve as a springboard for scaling up of LEISA activities.

**2. Working with NGO network partners** – Preparing and working with like-minded NGOs as partners to scale up sustainable agricultural concepts and practices. The partner NGOs are called Eco Network Partners (ENP)

**3. Fostering LEISA initiatives** – Beyond the clusters of villages and operational areas of NGO partners, we promote and foster interest and initiatives on the part of individuals, groups and organizations in sustainable agricultural operations.

**4. Building linkages with key bio mass players** – Establishing working relationships with other agencies interested in eco farming like SAUs, government departments and private organizations to share useful knowledge related to sustainable agriculture.

**5. Documentation and dissemination** – Since there are many lessons to be learnt and shared in relation to sustainable agriculture, making systematic efforts to document and share useful knowledge with those interested.

Some of the basic features of the Foundation:

**1. Preparing professionals in LEISA technologies:** AMEF has initiated an innovative effort to institute fellowships for fresh graduates in agriculture to be oriented and practically trained in eco friendly farming systems, natural resource management as well as rebuilding environmental support to agriculture.

**2. Forging gender equity social processes:** AMEF seeks to mitigate and ameliorate the inequality based on gender, caste and economic status. Thus, AMEF addresses these issues while planning and implementing its activities.

Farmer is the primary user of the land resources. Therefore, AMEF begins working with the farm families, farm resources and farming systems. A start is made in village clusters with groups of farmers, using LEISA technologies. This is used as a springboard for scaling up LEISA practices and as a training base for development agencies and practicing farmers.

AMEF Foundation, which is engaged in promoting Sustainable Agriculture (SA), enables farmers to **generate and adopt alternative farming practices**, focused not only on proper conservation and development of natural farm resources, but also on their utilization in a judicious and sustainable manner. By this means, AMEF seeks to improve the livelihoods of the dry farming farm families, and, in addition, to contribute to the regeneration of the environmental support to farming, in this semi arid region.

AMEF has a firm conviction. Farming is what farmer does. What he does is based on what he knows, what he believes and what he manages to do. Therefore, if durable changes in farming are intended, it is necessary that the farmer's perception is widened, insight deepened, attitude modified and managerial abilities upgraded to match the present day demands in farming. Hence, AMEF believes

that “**empowerment of the farmer**” is the need of the hour. This is necessary to ensure that farmers do what they alone can do, and to avail the several development incentives effectively.

Under these circumstances, AMEF intends to take the initiative to put into operation a simple programme of enabling farmers to test and adopt alternative practices in farm resource management and modified cropping practices.

### **Strategy**

AMEF begins working with groups of farmers in cluster villages to develop visible SA models and partner with selected local NGOs or network of NGOs for scaling up the efforts. The visibility, by way of creating visible models, is essential because SA is a combination of sets of practices.

- Working in clusters of villages, with groups of farmers (SHG like), is to ensure wider attention and rapid assessment of the innovations, while saving the travel time and enhancing the work time of the project staff.
- With these farmers, building eco farming systems on their own initiative, through systematic application of alternative farming practices, generated and accepted by them, pertaining to on-farm rainwater management, soil fertility improvement and modified cropping practices.
- Enhancing the bio mass production, on and around the farms, for manurial purposes, for improving the soil fertility, water holding capacity, and microbial activity in the soil.
- Making use of these situations, conducting field days, study tours and training activities for building the capacity of farmers' groups, NGOs and other development agencies, in ecological agriculture.
- Formulating modified cropping patterns for breaking the mono cropping systems and safeguarding farm livelihoods against the vagaries of the monsoon.
- Employing the participatory methods of working with farmers like PRA, PTD and FFS techniques.
- Scaling up the SA activities through networks of NGOs, farmers' groups and other agencies
- Supporting LEISA initiatives in the project districts.
- Developing organizational structures to ensure continued efforts in pursuing eco farming practices.
- Building positive attitudes among educated rural youth by exposing them to strategic trends of changes in rural life

A comprehensive plan, incorporating these strategies is formulated, which is aimed at 'on-farm natural resource management', and is now being adopted as a step towards working with partner NGO networks. In the context of promoting Sustainable Agriculture, the following terminologies are adopted to create an identity for the participants and the components in this innovative process.

**Eco-farmers:** Refers to the members of the farmers groups, working with AMEF, in cluster villages, who adopt a minimum of three activities related to on-farm rainwater management, soil productivity enhancement and improved cropping practices.

**Eco-farming group:** Refers to the group of Eco-farmers in a village, where AMEF works.

**Eco-farming base:** Refers to a set of farms in a locality where a combination of alternative farming practices is put to use by Eco-farmers.

**Eco-farming forum:** Refers to an alliance of all the eco-farming groups in the cluster of villages.

**Eco-network partners (ENP):** Refers to the partners with whom AMEF is working. In promoting eco farming, the focus of AMEF, beyond establishing the eco-farming base, is on working with network of partner NGOs and CBOs, for scaling up the alternative farming practices.

## 2. AREAS OF OPERATION

AMEF Foundation is operating in the states of Andhra Pradesh, Karnataka and Tamil Nadu working in the major crops of the respective regions. Area Units are located at Raichur, Bellary and Bijapur in Karnataka, Madanapalle and Mahbubnagar in Andhra Pradesh and Tiruchi and Dharmapuri in Tamil Nadu. The Dharmapuri Unit has started its operation in the month of July 2005. Activities across AUs in the three states are coordinated by the Central Unit, located at Bangalore, and is responsible for the programmatic, financial and administrative matters of the organization.

## 3. WORK PROFILE

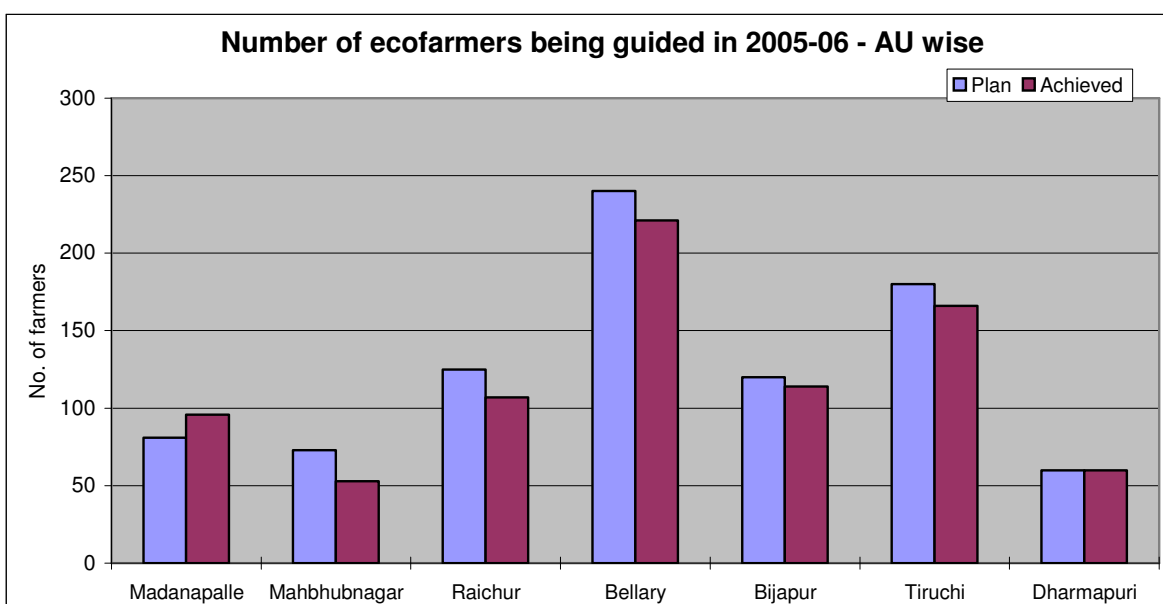
### 3.1 Working with eco-farmers in cluster villages

AMEF seeks to work closely and intensively with groups of farmers in cluster of villages in order to bring in visibility and to create eco-farming base for the purpose of demonstration to other farmers and NGOs through SA models. AMEF staff conduct in house and field trainings to build the capacities of these farmers to make them understand the importance and practice a combination of SA technologies related to soil and water conservation; soil fertility and productivity enhancement; and viable and proven crop-specific practices. The process is giving ample opportunities for the staff to acquire hands-on experience of working with farmers to promote SA.

AMEF staff, at different AUs, could guide 817 farmers against the plan of reaching 879 farmers. Forty-five groups are formed against the planned 46 groups in 41 villages and in 11 clusters across three states (Table 1).

**Table 1: Number of Eco- farmers being guided in 2005 - 06**

| Sl. No | Area Unit    | No. of families |            | No. of groups |           | No. of villages |           | No. of clusters |
|--------|--------------|-----------------|------------|---------------|-----------|-----------------|-----------|-----------------|
|        |              | P               | A          | P             | A         | P               | A         |                 |
| 1      | Madanapalle  | 81              | 96         | 5             | 6         | 4               | 5         | 1               |
| 2      | Mahabubnagar | 73              | 53         | 4             | 3         | 4               | 3         | 1               |
| 3      | Raichur      | 125             | 107        | 7             | 6         | 6               | 5         | 2               |
| 4      | Bellary      | 240             | 221        | 12            | 12        | 12              | 12        | 2               |
| 5      | Bijapur      | 120             | 114        | 6             | 6         | 4               | 4         | 2               |
| 6      | Tiruchi      | 180             | 166        | 9             | 9         | 9               | 9         | 2               |
| 7      | Dharmapuri   | 60              | 60         | 3             | 3         | 3               | 3         | 1               |
|        | <b>Total</b> | <b>879</b>      | <b>817</b> | <b>46</b>     | <b>45</b> | <b>42</b>       | <b>41</b> | <b>11</b>       |



### 3.2 Working with Eco-Network Partners (ENPs)

AMEF through its Area Units, partnered with 30 ENPs in the year 2005-06.

*Bellary* and *Bijapur* units have started their first year of working with partner NGOs under the FAO project. Earlier these units, involved in KAWAD Project, were working mainly as a resource agency reaching farmers directly. Both the units identified two NGOs each as their Eco-network partners, to start with. Bijapur Area Unit added another ENP in January 2006. The two Units are in the process of reorganising the work initiated in KAWAD into working in cluster villages and through ENPs.

A different kind of alignment has been achieved in Dharmapuri, where the partnership is forged with four CBOs called CMRCs (Community Managed Resource Centres) promoted by MYRADA and they will implement the envisaged programmes.

AMEF has launched an innovative programme 'Greening the Dry lands', a project in association with BIRD K (BAIF, Karnataka). Two ENPs each, in Raichur and Mahbubnagar AU, are being provided with technical and methodological assistance by AMEF and BAIF in order to develop tree-based dry land farming models. While AMEF assists the ENPs in on-farm NRM and productivity enhancement, BIRD K assists in promoting live hedges, integrating agro-forestry, dry land horticulture and livestock promotion. Each ENP is implementing the programme in one selected village involving about 50 families on 50 ha land. The purpose of involving BIRD-K is to enrich the approaches to promote SA in drylands.

**Table 2: Eco-network partners, districts and major programmes for the year 2005- 06**

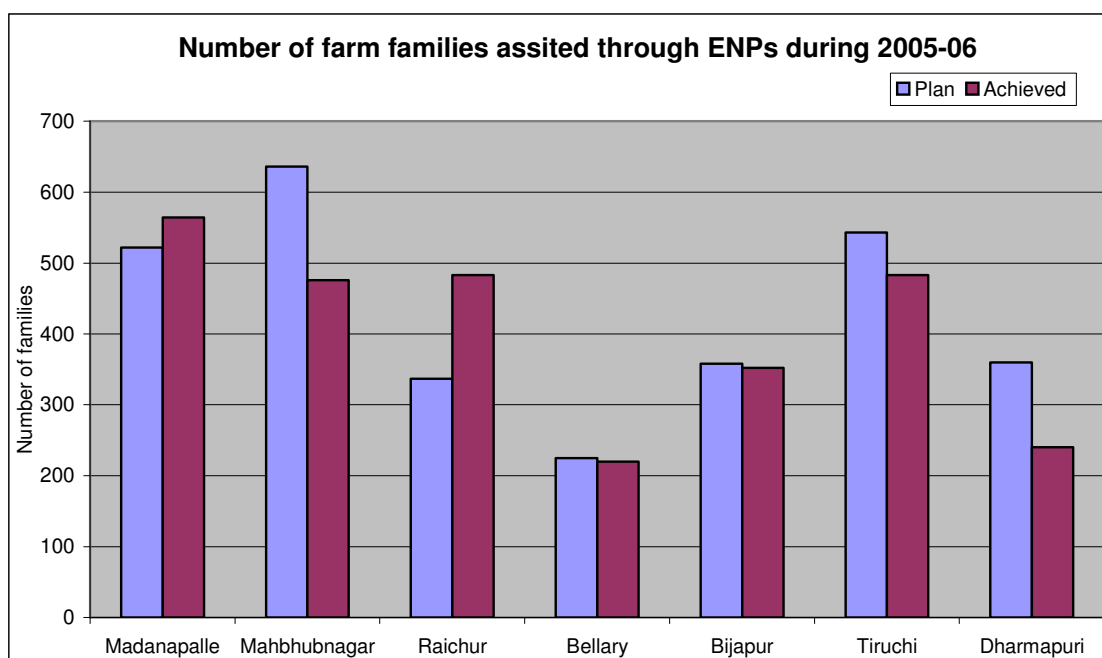
| State          | Eco-network Partners (NGOs)   | Districts                  | Crops/Programme   |
|----------------|---|----------------------------|---|
| Andhra Pradesh | ACTS, GVS-T, CHAITANYA, SPANDANA, APRRM and MYRADA                    | Chittoor, Anantapur        | Groundnut, Dry Land Horticulture (DLH) and Paddy                        |
|                | SDDPA, WDS, Eco-Club and PPDS, IRDO                                   | Mahbubnagar                | Cotton, castor, groundnut, and paddy<br>Greening the Dry Land programme |
| Karnataka      | INGRID, SWARD, SMGAS, SRDS, PRERANA,                                  | Raichur                    | Groundnut, cotton DLH, and<br>Greening the Dry Land programme           |
|                | GUARD and MYRADA  | Bellary, Chitradurga       | Groundnut, onion, Sericulture and paddy                                 |
|                | BIRDS, ISEER, POWER   | Bijapur                    | Groundnut, sorghum, tomato, sunflower                                   |
| Tamil Nadu     | CAD, PSSS, INDO -TRUST, SPPD, DMI                                     | Tiruchi, and Perambalur    | Groundnut, cotton, maize, vegetables and DLH                            |
|                | CMRC B. Agraharam, CMRC-Palacode, CMRC-Betamugilalam, CMRC-Dharmapuri | Dharmapuri and Krishnagiri | Groundnut, Tomato and Tapioca   |

AME Foundation supports the ENPs to propagate the practices of SA among the small and marginal farmers. To do this, capacities of the staff of ENPs are built, initially by timely and intensive in house training, followed by practical demonstration on the field. They are later involved in training events conducted by AMEF staff in one or two of the ENP villages. The staffs of ENPs acquire the contents and skills of these practices in turn replicate them in other villages of their operation and try to influence the farmers to adopt these valuable SA practices. The staff members of ENPs, through their experience, are generally acquainted with community mobilisation and, with the training on SA practices; they spread them among the interested farmers.

ENP staff, across AUs in three states, could reach 2818 farmers against the planned 3181 farmers (89% of the planned). One hundred and fifty one groups of farmers are formed in 129 villages (Table 3) and various SA technologies were promoted through them. ENPs on their own have reached (Table 4) more than 6000 farmers (150% of planned), across three States.

**Table 3: Number of farmers assisted through ENPs in 2005 - 06 – AU-wise**

| Sl. No | Area Unit    | No. of farmers |             | No. of groups |            | No. of villages |            |
|--------|--------------|----------------|-------------|---------------|------------|-----------------|------------|
|        |              | P              | A           | P             | A          | P               | A          |
| 1      | Madanapalle  | 522            | 564         | 37            | 37         | 32              | 33         |
| 2      | Mahbubnagar  | 636            | 476         | 33            | 24         | 22              | 19         |
| 3      | Raichur      | 337            | 483         | 17            | 24         | 17              | 19         |
| 4      | Bellary      | 225            | 220         | 11            | 11         | 11              | 10         |
| 5      | Bijapur      | 358            | 352         | 19            | 19         | 13              | 12         |
| 6      | Tiruchi      | 543            | 483         | 27            | 24         | 27              | 24         |
| 7      | Dharmapuri   | 360            | 240         | 18            | 12         | 18              | 12         |
| 8      | Bangalore    | 200            | 0           | 10            | 0          | 10              | 0          |
|        | <b>Total</b> | <b>2981</b>    | <b>2818</b> | <b>162</b>    | <b>151</b> | <b>150</b>      | <b>129</b> |



**Table 4: Number eco-farmers being assisted through ENPs - State-wise**

| State          | No. of NGOs associated |           | No. of farmers |             |            |             |             |             |
|----------------|------------------------|-----------|----------------|-------------|------------|-------------|-------------|-------------|
|                | P                      | A         | ENP            |             | ENP+       |             | Total       |             |
|                |                        |           | P              | A           | P          | A           | P           | A           |
| Andhra Pradesh | 10                     | 11        | 1158           | 1040        | 326        | 789         | 1484        | 1829        |
| Karnataka      | 12                     | 10        | 1120           | 1055        | 75         | 807         | 1195        | 1862        |
| Tamil Nadu     | 13                     | 9         | 903            | 723         | 500        | 1314        | 1403        | 2037        |
| <b>Total</b>   | <b>35</b>              | <b>30</b> | <b>3181</b>    | <b>2818</b> | <b>901</b> | <b>2910</b> | <b>4082</b> | <b>5728</b> |

## 4. Generation and adoption of eco-friendly technologies

Year 2005-06 was a good agricultural year across Area Units of AMEF. The total rainfall was more than the annual average in all the Units. The farmers of Bellary, Raichur and Bijapur and those in Mahbubnagar enjoyed good rainfall and reaped better crop harvests adopting useful rainwater management practices. In Tiruchi, though the rains from the South West monsoon seemed normal in terms of quantity (with a slight deviation of about 14% in Perambalur and 9% in Tiruchi), the onset was delayed and distribution skewed. Due to the delayed onset of rains, there occurred a significant shift in their crop choice from groundnut to maize and sorghum. However, heavy and frequent rains (8-16 rainy days) during the peak crop period of September to November in Tiruchi and Madanapalle caused severe crop losses to the farmers. While flowering and harvesting were severely affected by persistent rains, at flowering stage in Madanapalle, the initial drought followed by floods destroyed all crops in Tiruchi. One cluster village in Tiruchi suffered serious loss to crops and properties due to floods.

### 4.1 SA practices in Cluster Villages

#### 4.1.1 Natural resources management

##### *Conservation and management of soil and water*

As the normal monsoon season commenced in June, many of the practices of soil and water conservation were completed before June in all AUs, except in Tiruchi and Dharmapuri. These two areas received rains late and accordingly, certain practices of soil and moisture conservation were practiced in and after July. Fall and early ploughing, land preparation across the slope, and bunding and bund repair were mostly practiced by farmers in AMEF cluster villages (695, 624 and 485 farmers respectively) (Table 5). Certain water conservation and management activities like protective water management (85 farmers), small section and intersection bunds (72), ridges and furrows (56), compartment bunding (43), graded furrows (30), were also practiced by many farmers across Area Units. In all, 12 farm ponds were constructed after convincing the farmers about its advantages.

In Tiruchi, Rain gauge and a digital RH and thermometer has been installed in every cluster to record vital parameters.

**Table 5: Number of farmers practicing soil and water conservation activities in AMEF cluster villages**

| Activities                            | BEL |     | BJP |     | RCH |    | TRI |     | DPI |    | MPL |    | MHB |    | Grand total |     |
|---------------------------------------|-----|-----|-----|-----|-----|----|-----|-----|-----|----|-----|----|-----|----|-------------|-----|
|                                       | P   | A   | P   | A   | P   | A  | P   | A   | P   | A  | P   | A  | P   | A  | P           | A   |
| Fall / early ploughing                | 200 | 200 | 120 | 75  | 75  | 78 | 100 | 166 | 60  | 40 | 73  | 81 | 60  | 55 | 688         | 695 |
| Land preparation across the slope     | 200 | 136 | 120 | 75  | 60  | 71 | 100 | 166 | 60  | 40 | 73  | 81 | 60  | 55 | 673         | 624 |
| Bunding and bund repair               | 200 | 200 | 60  | 79  | 43  | 34 | 100 | 93  | 60  | 14 | 58  | 10 | 50  | 55 | 571         | 485 |
| Small section / interception bunds    |     |     | 8   | 0   | 20  | 50 | 30  | 30  | 17  | 55 | 0   | 60 | 5   |    | 203         | 72  |
| Ridges and furrows                    | 10  | 0   | 10  | 0   | 25  | 50 | 50  | 0   |     | 6  |     |    | 60  | 0  | 155         | 56  |
| Graded Furrows                        |     |     |     |     |     |    | 100 | 30  | 15  |    |     |    | 5   |    | 120         | 30  |
| Compartment bunding                   |     |     | 5   | 2   | 5   | 10 | 100 | 30  | 10  | 1  |     |    |     |    | 120         | 43  |
| Gully Plugging                        |     |     |     |     | 29  | 22 |     |     |     |    |     |    | 15  | 0  | 44          | 22  |
| Farm ponds                            |     | 1   |     | 2   | 8   | 5  | 15  | 0   |     | 4  | 7   | 0  |     |    | 30          | 12  |
| Drip Irrigation                       |     |     |     | 17  | 43  | 43 |     |     |     |    | 15  | 0  |     |    | 58          | 60  |
| Protective water management practices |     |     |     | 44  | 14  | 34 |     |     | 10  | 2  |     |    | 20  | 5  | 44          | 85  |
| Dead furrows/conservation furrows     | 20  | 3   |     |     |     | 5  |     | 10  |     |    | 50  | 16 |     | 20 | 70          | 54  |
| Others*                               |     | 6   |     | 148 |     |    |     |     |     | 1  |     |    |     |    | 0           | 155 |

\*Trenching along border, Mulching, Ring trench biomass application, Intercultivation

##### *Soil fertility improvement*

Many soil fertility improvement activities related to enhancement of soil productivity were carried out by the farmers during the cropping season in the reporting period (Table 6). Farmers were given technical understanding on these practices and were motivated to adopt them. Practices like use of bio fertilisers (644), growing legumes as intercrops, border crops, mixed crops (624) and application of balanced fertilisers (533) have been widely accepted. Few activities like composting (274 farmers) and Vermicomposting (176) were also promoted in the cluster villages and farmers adopted them to make better use of crop residues. Green manuring could be promoted with 60 farmers. Besides

construction of compost pits at an individual level, farmers in Tiruchi have gone in for community pits. Community compost pits have been taken up by farmer groups in three villages of one cluster for recycling crop residues accumulated on the roadsides, for which the local panchayat has supported. Practice of converting crop residues into compost is becoming a common phenomenon in place of burning the residues.

**Table 6: Number of farmers practicing Soil fertility improvement activities in AMEF cluster villages**

| Activities                           | BEL |     | BJP |    | RCH |     | TRI |     | DPI |    | MPL |     | MHB |    | Grand total |     |
|--------------------------------------|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|-------------|-----|
|                                      | P   | A   | P   | A  | P   | A   | P   | A   | P   | A  | P   | A   | P   | A  | P           | A   |
| Tank silt application                | 20  | 55  | 8   | 19 | 8   | 5   | 100 | 4   |     |    | 23  | 6   | 7   | 15 | 166         | 104 |
| Balanced fertilizer application      | 200 | 236 | 120 | 0  |     | 92  | 100 | 166 | 60  | 14 | 73  | 10  | 30  | 15 | 583         | 533 |
| Use of bio fertilizers               | 200 | 137 | 120 | 83 | 150 | 105 | 100 | 135 | 60  | 48 | 73  | 104 | 60  | 32 | 763         | 644 |
| Enriched FYM application             | 10  | 0   | 12  | 0  | 12  | 5   | 100 | 135 | 60  | 9  | 23  | 0   | 10  | 2  | 227         | 151 |
| Composting                           |     | 17  | 26  | 10 | 100 | 87  | 100 | 120 | 60  | 31 | 73  | 9   | 60  | 0  | 419         | 274 |
| Vermicomposting                      | 20  | 54  | 10  | 31 | 38  | 75  | 50  | 0   | 5   |    |     | 5   | 55  | 11 | 178         | 176 |
| Legumes as inter/border, mixed crops | 100 | 200 | 120 | 89 | 100 | 72  | 100 | 132 | 60  | 40 | 73  | 81  | 60  | 10 | 613         | 624 |
| In-situ green manuring               |     |     | 12  | 0  | 30  | 8   | 50  | 51  |     |    |     | 1   |     |    | 92          | 60  |
| Sheep penning                        |     |     |     |    | 20  | 19  |     |     |     |    |     |     |     |    |             |     |
| Others*                              |     | 3   |     | 6  |     |     |     | 6   |     |    |     |     |     |    | 0           | 15  |

\*Biogas slurry, Vermiwash, neem cake application, Jeevamruta, trench filled with biomass

#### 4.1.2 Natural resources utilisation

##### *Promotion of good crop-specific production practices*

AMEF staff members have conducted varied capacity building activities to train and convince farmers to utilise available on-farm natural resources to improve crop productivity. Farmers were trained on the essentials of crop production, like use of quality seeds and improved varieties, importance of maintaining appropriate plant density in unit area, remunerative and nature friendly crop production practices. The successful adoption of practices by farmers across AUs was high with the technologies, like use of good quality seeds (595 farmers against 763 planned), adoption of IPM technologies using biological pesticides and botanicals (530 farmers against 713 planned), use of improved varieties (398 farmers against 238 planned), maintaining optimum plant density (370 farmers against 633 planned), and strip crop promotion (10 against 25 planned) (Table 7). Promotion of crop rotation and adoption of seed treatment with local resources were next in this order. However, SRI method of

##### **Box 1: Biomass promotion catching up in all the areas**

Importance of biomass on and around the farms is catching up in a big way among farmers. Along with farmers being convinced about biomass on lands, the monsoon also has been favourable for them to take this programme in a big way.

More than 14000 seedlings of *Cassia seameia* and *Glyricidia* spp. were planted at Keelapatla, Kothapalli, V.Kota, Amadalakona and Mungilipattu, Uparavandalapalli, Valasaguttapalli, Thotavaripalli and Tharigod villages in Madanapalli area. In Bijapur, more than 15000 seedlings of biomass species viz. *Glyricidia*, *Jatropha*, *Pongamia*, *Cassia siamea* and *Simarouba* were planted by all the farmer group members. In Raichur, large scale planting was taken up by farmers of cluster villages, Kanyadoddi, Puchaladinni and Midgaladinni. One group of farmers in Pujarahalli in Bellary, planted more than 10000 biomass seedlings. *Community nurseries* have been initiated in two villages in **Tiruchi**. Around 10,000 *Cassia siamea* seedlings were planted.

Cultural festivals like the **Green Festivals** are being recognised and celebrated, to promote greenery in villages. For the first time in Raichur district the Green Festival was celebrated in Sagamkunta and Marrata villages. In both the villages nearly 10,000 seedlings were planted by farmers in their fields in trenches. The Green Festival has motivated farmers of Puchaladinni and Gadhar villages to plant around 6000 seedlings on the bunds.

paddy cultivation, seed production activities, alternative and sequential crops, and efficient cultivation equipments could not be promoted as planned due to initial drought followed by heavy rains.

**Increasing biomass availability** Generation of plant biomass on and off the farm was given special attention during 2005 - 06 with an intention to popularise the importance of addition of adequate organic matter to the soil to improve its biophysical properties and thereby enhancing its productivity. Farmers were taken to vision building study tours, were provided with the seeds and seedlings of suitable plant species (Cassia, Glyricidia, Jatropha, Pongamia, Simarouba etc) in different AUs, were guided to take up planting and maintaining during drier months. Good rainfall during the season in all AUs and close monitoring and supervision by the staff made the farmers to take up the planting of seeds and seedlings along the field bunds (567 farmers against 603 planned) and planting for fodder purpose (grasses, *Stylozanthes*, etc, 435 against 268 farmers planned, Table 8). Sufficient nurseries could not be encouraged ahead of the season in 2005 as many of the groups were new and started stabilising only with the commencement of the agricultural season. However, 112 farmers raised nurseries for the ensuing season. About 51, 000 seedlings in Madanapalli and 39, 000 in Raichur were being raised for planting in Kharif 2006. **The highlights in biomass promotion in 2005 was that a single group in Bellary Area Unit planted 1.05 lakh seedlings.** Over 3.63 lakh seedlings, raised by farmers under KAWAD project, were procured and planted on field bunds.

**Table 7: Farmers adopting improved crop production practices in AMEF cluster villages**

| Activities   | BEL |     | BJP |    | RCH |    | TRI |     | DPI |    | MPL |    | MHB |    | Grand total |     |
|--|-----|-----|-----|----|-----|----|-----|-----|-----|----|-----|----|-----|----|-------------|-----|
|  | P   | A   | P   | A  | P   | A  | P   | A   | P   | A  | P   | A  | P   | A  | P           | A   |
| Use of good quality seeds                                      | 200 | 120 | 120 | 63 | 150 | 82 | 100 | 151 | 60  | 45 | 73  | 81 | 60  | 53 | 763         | 595 |
| Maintaining optimum plant density                              | 70  | 44  | 120 |    | 150 | 76 | 100 | 100 | 60  | 40 | 73  | 65 | 60  | 45 | 633         | 370 |
| IPM - using alternatives to pesticides- bio agents/ botanicals | 200 | 145 | 120 | 6  | 150 | 85 | 100 | 135 | 10  | 45 | 73  | 79 | 60  | 35 | 713         | 530 |
| Varietal trials  | 5   | 2   | 8   | 26 | 10  | 55 | 100 | 80  | 10  | 45 | 7   | 0  | 10  | 3  | 150         | 211 |
| Use of improved varieties                                      | 15  | 24  | 20  | 54 | 10  | 65 | 100 | 100 | 10  | 39 | 73  | 73 | 10  | 43 | 238         | 398 |
| Seed production / multiplication                               | 4   | 5   |     | 1  | 13  | 5  | 50  | 20  |     | 0  | 50  | 7  | 5   | 0  | 122         | 38  |
| Promoting crop rotation  |     |     | 40  | 0  | 150 | 82 | 100 | 10  | 15  | 0  | 55  | 0  | 60  | 20 | 420         | 112 |
| Promoting alternative & sequential crops                       | 24  | 0   |     |    | 2   | 0  | 100 | 1   | 15  | 39 | 55  | 0  |     | 0  | 196         | 40  |
| Introduction of efficient cultivation implements               |     | 1   | 8   | 4  | 5   | 1  | 50  | 0   |     | 2  | 28  | 0  |     | 0  | 91          | 8   |
| SRI method of rice cultivation                                 | 4   | 2   |     |    | 19  | 0  | 15  | 0   |     | 28 | 10  | 15 | 17  |    | 81          | 29  |
| Seed treatment with local resources                            |     |     | 100 | 38 | 150 | 12 |     |     |     |    |     | 60 | 55  |    | 310         | 105 |
| Introduction of minor millets                                  |     |     | 8   |    |     | 10 |     |     |     | 1  |     |    |     |    | 8           | 11  |
| Strip cropping   | 15  | 8   |     | 2  |     |    |     |     | 10  |    |     |    |     |    | 25          | 10  |
| Others (Cocoon production techniques)                          |     | 14  |     |    |     |    |     |     |     |    |     |    |     |    | 0           | 14  |

Fodder species are also being promoted for dual purpose. Nearly 70 per cent of farmers in Bijapur have grown two species of fodder on their field bunds i.e. *Sesbenia* and *Stylo Scabra* and *Hemata*. Farmers have not harvested them for use as they want the seeds to spread.

**Table 8: Number of farmers involved in biomass programmes in AMEF cluster villages**

| Activities                              | BEL |     | BJP |    | RCH |     | TRI |     | DPI |    | MPL |    | MHB |    | Grand total |     |
|---|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|----|-------------|-----|
|   | P   | A   | P   | A  | P   | A   | P   | A   | P   | A  | P   | A  | P   | A  | P           | A   |
| Bund plantation for bio-mass production | 200 | 220 | 20  | 75 | 150 | 61  | 100 | 100 | 30  | 39 | 73  | 60 | 60  | 12 | 633         | 567 |
| Recycling – Green manure                | 25  | 0   |     |    | 30  | 2   | 100 | 44  | 15  |    | 43  | 0  | 45  | 0  | 258         | 46  |
| Nursery Raising                         |     | 66  | 7   | 0  | 150 | 40  |     |     | 20  | 2  | 20  | 4  | 60  | 0  | 257         | 112 |
| Fodder production                       | 25  | 220 |     | 75 | 30  | 102 | 100 | 38  | 20  |    | 43  | 0  | 50  | 0  | 268         | 435 |
| Others*                                 |     | 34  | 22  |    | 15  |     | 114 |     |     |    | 21  |    | 21  |    | 0           | 227 |

\* *Azolla* Production, *DLH*, Kitchen gardening, Sericulture, small ruminants

### 4.1.3 Crop based programmes

Programmes were planned in groundnut in all AUs except Mahabubnagar to address specific problems through PTD or FFS or to demonstrate the feasible technologies in the form of trials. Paddy based programmes were planned in Bellary, Tiruchi and Mahabubnagar. Bellary AU conducted FFS in onion, Bijapur AU involved in sorghum, pomegranate and tomato, Raichur and Tiruchi in cotton, Mahabubnagar in castor, and Tiruchi and Raichur in Dry Land Horticulture (DLH).

Farmers' participation was encouraging across AUs in these planned programmes (Table 9) and AMEF could reach the target and come out with useful results out of the crop-based programmes. Results of these crop-based programmes, taken up with cluster farmers, are presented below.

**Table 9: Number of farmers in different crop based programmes in AMEF cluster villages**

| Activities                              | BEL |    | BJP |    | RCH |    | TRI |    | MPL |    | MHB |    | Grand total |     |
|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-------------|-----|
|   | P   | A  | P   | A  | P   | A  | P   | A  | P   | A  | P   | A  | P           | A   |
| Groundnut based farming systems IFS/FFS |     |    |     |    | 60  | 42 | 60  |    |     |    |     |    | 60          | 102 |
| Groundnut FFS                           | 40  | 40 |     | 40 |     |    |     |    | 73  | 81 |     |    | 113         | 161 |
| Groundnut PTD                           | 40  | 36 | 20  | 63 |     | 45 | 100 |    |     |    |     | 1  | 160         | 145 |
| Onion FFS                               | 60  | 60 |     |    |     |    |     |    |     |    |     |    | 60          | 60  |
| Paddy FFS                               | 20  | 20 |     |    |     |    |     |    |     |    |     |    | 20          | 20  |
| Paddy PTD                               |     |    |     |    |     |    | 25  |    |     |    |     |    | 25          | 0   |
| Paddy-groundnut cropping system FFS     |     |    |     |    |     |    |     |    |     |    | 60  | 55 | 60          | 55  |
| Sericulture PTD/trial                   | 80  | 64 |     |    |     |    |     |    |     |    |     |    | 80          | 64  |
| Sorghum based cropping system-PTD/trial |     |    | 80  | 79 |     | 2  | 45  |    |     |    |     |    | 80          | 126 |
| Pomegranate -PTD                        |     |    | 20  |    |     |    |     |    |     |    |     |    | 20          | 0   |
| Tomato Based Cropping System-FFS        |     |    | 20  |    |     |    |     |    |     |    |     |    | 20          | 0   |
| Tomato Based Cropping System-PTD        |     |    | 20  |    |     |    |     |    |     |    |     |    | 20          | 0   |
| Cotton based farming systems IFS/FFS    |     |    |     |    | 85  | 66 |     | 12 |     |    |     |    | 85          | 78  |
| Cotton PTD                              |     |    |     |    |     | 2  | 80  |    |     |    |     |    | 80          | 2   |
| Dry Land Horticulture (DLH)             |     |    |     |    | 75  | 42 | 80  |    |     |    |     |    | 155         | 42  |
| Castor based farming system PTD/FFS     |     |    |     |    |     | 21 |     |    |     |    |     |    | 0           | 21  |
| Maize PTD                               |     |    |     |    |     |    | 0   | 49 |     |    |     |    | 0           | 49  |
| Others (Pulses)                         |     |    |     |    |     |    |     |    |     |    | 1   |    | 0           | 1   |

### Groundnut

Groundnut is the predominant crop in many working areas of AMEF. Apart from soil and water conservation and soil fertility improvement programmes, certain sustainable crop production activities like use of bio fertilizers, gypsum application, growing inter/border/mixed crops, strip cropping, were promoted across Units, both with cluster and ENP farmers, during the cropping season.

In **Madanapalle**, sustainable agriculture practices were promoted with 408 groundnut farmers. Farmers were enthusiastic about better income by the crop due to good rainfall. However, heavy rains at flowering and harvest season caused losses due to flower drop and sprouting of pods as persistent rains delayed harvesting, and fungal infection to the harvested pods. However, the crops like pigeon pea, which were grown as mixed crop, came up well in certain pockets and farmers could compensate the loss and learnt about the advantages of mixed cropping.

Seven farmers of cluster villages and 27 farmers from ENP area have taken up seed multiplication of groundnut with improved varieties (TPT4, VRI-2, R8808, ICGV91114, TCGS156 and K-134) in 23.5 acres in Rabi season. There are about 20-30 pods per plant and farmers are expecting 18 - 20 bags of pods per acre, which will be slightly lesser than the normal yield under irrigation. Continued rains in November resulting in delay in sowing could be the reason for this yield reduction.

Field days in groundnut based farming systems were organized at Pathakeelapatla of Palamner area and Yelamanda of Piler area to share experiences on groundnut farming. Farmers from Gangavaram (Palamner), Kurubulakota, Nallacheruvu (Kadiri area) and V.Kota, scientists from agriculture research stations and officials from agriculture department participated in the field days. Participants visited the fields and farmers shared their experiences of various farming practices adopted during Kharif 2005.

In **Tiruchi** also, losses in groundnut crop were observed due to heavy rains and floods. Farmers, who had bunds stabilized with grasses and *Stylozanthes*, could protect soil from erosion. VRI - 2 of groundnut could yield 20 per cent more than the local TMV - 7. Also, VRI -2 is proved to have better

quality of fodder due to lesser shedding at maturity. The intercrops like pigeon pea and field beans survived and are supposed to be a ray of hope for the farmers. Farmers are now motivated to plan for a sequential crop after groundnut and are mobilising seeds of crops such as horse gram, chickpea and fodder sorghum.

In **Bijapur**, FFS and varietal trials were taken up with groundnut farmers. 177 groundnut farmers have used bio-agents for seed treatment. Cowpea and castor as trap crops and pigeon pea and horse gram as strip/border crops were promoted. Few short term and long-term experiments were conducted with the farmers. Farmers could notice no reduction in the yield with 25 per cent defoliation at 45 days after sowing and understood that the crop can sustain that much defoliation due to pest damage. During the groundnut field day, Bijapur farmers shared their PTD experience. Observations in PTD plot included good pod filling, 16 per cent improvement in yield compared to control plot and no reduction in the crop yield even with 25 per cent defoliation at 45 DAS. In addition, they also shared their knowledge gained on use of bio agents, identification of insects (harmful or beneficial) and feeding potential through insect zoo studies.

In **Mahbubnagar**, 46 farmers in cluster and ENP villages were encouraged to go for the seed treatment of groundnut with *Rhizobium*, *Trichoderma* and *Pseudomonas*. Farmers are keenly **observing the differences in treated and untreated plots.**

In **Raichur**, farmers tried ICM practices like seed treatment with *Rhizobium*, and *Trichoderma*, use of trap crops/border/mixed crops, and use of gypsum. Varietal trials were also taken up with few farmers. Varietal trials indicated that VRI 2 and GPBD-4 are suitable for *kharif* season due to their tolerance to pests and diseases, and R 8808 and TPT-4 for rabi/summer because of their tolerance to bud necrosis. Field days were conducted for the farmers to share the knowledge gained on integrated crop management and varietal performance.

In **Bellary**, five different varieties, DH 86, K-134, GPBD 4, TMV-2 and JL-24 were compared with the local variety, for their performance (Annexure 1). Performance of Foundation Seed (FS) TMV-2, DH-86 and GPBD-4 was better over other varieties. However, fodder yield was lower in case of DH-86 compared to other varieties. Farmers noticed lesser incidence of pest and diseases in GPBD-4 compared to other varieties. GPBD-4 (a very promising variety in Dharwad region) that did not perform well in previous years, performed well in 2005, possibly due to above average rains during this year. TMV-2 (FS) emerged as superior and proved the best, once again, and hence continues to be preferred by the farmers. Though the local check was TMV-2, its performance was not as superior as that of Foundation Seed due to genetic erosion.

Groundnut yield proved that performance of trial plots was better than the control plots in terms of plant population, mortality rates, pod yield and pod weight. Higher seed rate with application of *Trichoderma* and gypsum were followed in trial plots. An increase of 13 per cent in pod yield and 23 per cent in haulm yield were observed.

Based on the performance of varieties in previous years, five farmers took seed multiplication of VRI-2, TMV-2, K-134 and DH-86. They could get 950 kg of TMV-2, 500 kg of VRI-2, 350 kg of K-134 and 240 kg of DH-86.

## **Millets**

Rabi sorghum trials were taken up in two villages in **Raichur** to compare the performance of two sorghum genotypes with M 35-1. It was observed that, DSV 5 yielded better but farmers preferred M 35-1 because of good cooking quality. The farmers have stored the seed for the next season and have also shared some quantity of seed with other farmers.

In **Bijapur**, 120 farmers have taken up sorghum during *Rabi* season. Different practices followed by farmers are, treating the seeds with bio-inputs like Azospirillum, PSB and *Trichoderma*, use of improved varieties like DSV-4 along with M-35-1, repeated intercultivation, maintaining optimum plant population, bengal gram as a strip / inter and mixed crop. Farmers did not prefer DSV-4 due to loose ear head with the thick stem and late maturity. Farmers preferred M 35-1 because of higher grain and fodder yields even with normal rainfall.

Sorghum seed treatment with combination of the cow dung, cow urine and bio-agents (*Azospirillum* and *Trichoderma* - 4 g/kg seed) resulted in good crop stand in addition to early germination (1-2 days) with minimum incidence of smut. The treatment had a seed priming effect as well as seed hardening. The expenditure for bio agents was Rs 12 per acre.

In **Raichur**, ICTP 8203, a drought tolerant variety of bajra, was grown in cluster villages on trial basis and is proved successful with yields of 13 quintals. Farmers are pleased with the variety and have stored the seed for next season.

### **Oilseeds**

In **Mahabubnagar**, FFS in castor was taken up in an ENP (SDDPA) village. There was heavy incidence of grey mold disease during monsoon, which continued even after the monsoon. PTD was done by two farmers in 2 villages. Options tried by farmers were - spraying with *Trichoderma viridae* @ 5g/l, *Pseudomonas fluorescence* @ 2g/l, Lantana leaf extract (1%) and Carbendazim @ 1g/l. Results are awaited.

**Mahabubnagar** farmers cultivated red gram as an *inter crop* in castor and jowar. Farmers have sown improved varieties like Kranti, Haritha in castor and LRG-30 in red gram instead of using hybrids /local varieties. A trial conducted on the performance of castor genotypes (Kranti, and 48-1) on farmers' field, indicated that the performance of Kranti is better and was found tolerant to diseases.

Another trial in **Raichur** with sunflower indicated better performance of KBSH -1 over Ganga Kaveri hybrid. Two field days on sunflower were organised at Palkamdoddi (Raichur) and Yarmarsaal (Deodurga). Farmers from the neighbouring villages participated and shared the information generated in the trials, importance of quality seed, seed treatment and also the suitable cropping systems for the area.

### **Paddy**

In **Mahubnagar** 16 farmers took up SRI in paddy during *Kharif* 2005. The results are encouraging. Three field days were organized in SRI cultivation and due to farmer-to-farmer interactions, many farmers from the neighbouring village were motivated to take up SRI cultivation. In the *Rabi* season, another 8 farmers in cluster villages have taken up SRI cultivation.

Nine farmers took up SRI in **Madanapalle**. Farmers opined that yields were better in SRI method than conventional method with relatively less requirement of water. Harvesting of SRI- Paddy is completed. Better yield of paddy with relatively less requirement of water in system of rice intensification with 2 farmers of Palamner, 3 farmers of Piler area and 2 farmers of B.Kothakota area has motivated many farmers of the same village and other villages/ENPs who visited during the study tour. Many more farmers are likely to take up SRI in rabi.

Demonstrations on SRI method was organised in two farmers field at Jalibenchi village in **Bellary**. The paddy group of farmers of Jalibenchi village were taken on a study tour to farms of progressive farmers at Mandya, Devanahalli and Mysore, to expose them to SRI method of paddy cultivation.

### **Cotton**

In **Raichur**, 66 farmers took up ICM programme in cotton with land preparation across slope, sheep penning, application of poultry manure and vermicompost, opening ridges and furrows, seed treatment with Trichoderma, Azospirillum and PSB, maintaining optimum plant population, bhendi as trap crop and pigeonpea as border crop, cluster bean as intercrop, use of pheromone traps, use of Trichogramma egg parasitoids and HaNPV against bollworm. Results of the experiment are awaited.

Mr. Gundappa Gadhar, a farmer from Raichur Unit's cluster village has been awarded the best IPM farmer in cotton, at the state level IPM mela, organised in UAS Dharwad. Mr. Bandeppa Kashempur, Minister for Agriculture, GoK, awarded the certificate to Mr. Gundappa.

Cotton FFS was initiated with 19 farmers in Gadhar village and regular sessions, few short and long term experiments were conducted.

### **Onion**

Onion is one of the important cash crops of **Bellary** region in Karnataka. AMEF Bellary Unit has started working with 60 onion farmers with the main objectives of reducing cost and increasing yield by following LEISA practices. Farmers expressed that insects like thrips and cutworms, and diseases like downy mildew, purple blotch, smut, bacterial and fusarium rots were the major biotic stresses.

The problem analysis on the field revealed that thrips and purple blotch were most severe and it was decided to take up experiments to look for better options of managing them in the area. The farmers were trained to grow a healthy crop through FFS. Some of the alternatives were tried through PTD methodology (Annexure 2).

The Unit organised a 3-day study tour for onion growing farmers to Ralegaon Siddi in Maharashtra, to understand community watershed activities and Mahatma Phule Krishi Vidyapeet, Rahuri, to know cultivation aspects of onion. Farmers also visited Onion Research Station and the onion market at Nasik. Farmers had an opportunity to visit an onion firm which exports onion to Colombo, Malaysia, China and Dubai and learnt about its storage and the grading procedure. Totally, 57 farmers from 3 villages (Pujarahalli, SK Hatti and KM Halli) participated in the study tour.

Farmers have reduced chemical sprays for controlling major pests like *Spodoptera* and thrips. Wherever farmers sprayed chilli+garlic extract, the pest incidence was found to be low. Intercrops like coriander, redgram (Annexure 3) and chilli were promoted and farmers are convinced about their importance in pest management and realising higher income. Lesser seed rate was used which got reflected in bigger and uniform sized bulbs with good weight. For wider dissemination of these learning, In Pujarahalli, one farmer prepared a mixture of extract from 18 plants, cow urine and milk solution and supplied to all onion-growing farmers. The farmer revealed that he had saved Rs.8000 from 4 acres of onion by AMEF intervention. Onion field days were conducted in Pujarahalli, SK Hatti and KM Halli villages in which farmers and experts shared information on crop management aspects.

#### **Box 2: PTD in Onion**

##### **Options tried**

- Chilli + garlic spray, spray with a combination of botanicals, spraying of neem based pesticides and trying out bajra as border crop.
- Farmers also used bio-inoculants like *Trichoderma*, *Azotobacter* and Phosphate solubilising bacteria (PSB) in different combinations.
- Wider spacing

##### **Results**

- Farmers were able to reduce 2-3 sprays. Also, they could reduce the chemical fertilisers from 15-16 bags to 6-10 bags per acre. Thus, overall cost of production was reduced to the tune of Rs. 3000-4000/acre.
- As farmers were advised to have wider spacing, they were able to reduce the seed rate by 50 per cent (4-5 kg/acre instead of 7-9 kg/acre in conventional broadcasting method)
- Bulbs were uniform and bigger in contrast to mixed, smaller bulbs in conventional plots. The bulb weight in experimental plot ranged between 421-538g as against 273-400g in farmers' practice (Annexure 4 ).

### **Maize**

In **Tiruchi**, application of enriched FYM in maize increased cob size and number of grains in the cob, significantly. Farmers could save Rs. 500 per acre in fertilizer cost by adopting sets of SA practices and yield increase was to the tune of 15 per cent. Farmers were guided to go for collective marketing, which improved the returns by 6 per cent.

CO -1 variety of maize performed on par with Kargil hybrid. Cost reduction was to the tune of 80 per cent in seed cost.

### **Tomato**

Tomato programme is taken up in **Bijapur**, with 20 farmers in Inchageri village. The different IPM technologies adopted by farmers were - raised bed nursery, seed/seedling treatment with local resources and bio-agents, spraying of botanicals like neem leaf extract, lantana leaf extract, neem cake, Bordeaux mixture, use of border crop/trap crop with cowpea and marigold. Results indicated that farmers were able to reduce chemical spray by 6 times. Farmers were convinced and the learning was shared with other farmers in Field day.

### **Pomegranate**

Bacterial blight is the recent addition to the list of problems of pomegranate farmers in Bijapur. No chemical is found to be effective. Farmers were suggested to take up Bordeaux mixture (BM) spray before and after pruning, dipping of scatures in sodium hypochloride (1%) solution to avoid the spread. Burning of pruned material, application of vermicompost was suggested to keep the plants healthy and remain tolerant to infection.

Farmers have tried the human antibiotic drug Trimethoprim and Sulphamethoprim and botanicals like lantana extract, 2-3 days fermented buttermilk by mixing with cow urine against the Bacterial blight. Farmers found that spraying of the 2-3 days fermented buttermilk by mixing with cow urine resulted the reduction of bacterial blight as compared to other treatment. Farmers have tried Pre pruning Bordeaux mixture (BM) spray and dipping of secatures in sodium hypo chloride to avoid the spread of bacterial spores. Some farmers have taken up the spray of garlic extract for management of sucking pest. Spread of bacterial blight was not observed by the end of 2005 due to high sunshine during morning hours and cool nights.

#### Box 3: PTD in pomegranate

AMEF staff tried a PTD on bacterial blight with farmers with following options.

- Spraying of antibiotic drug Trimethoprim and Sulphamethoprim,
- Spray with botanicals like Lantana extract, fermented buttermilk + cow urine.

Farmers got convincing results by spraying 2-3 days' fermented buttermilk + cow urine compared to other options. Farmers started taking up repeated sprays of this treatment at 15 days interval.

### Dry land Horticulture

Horticulture plants are mostly deep rooted and the farmers are being encouraged to integrate DLH into the dry farming system by AMEF to make better use of available moisture and nutrients without competing with field crops, which have shallow root system. They provide additional income to farmers once they start yielding.

In **Madanapalle**, around 13,355 horticulture seedlings/grafts of different varieties of Mango (*Beneshan, Mallika, Kadar, Bangalora, Malgoba, Neelam* and *Pither* varieties), coconut, jack fruit, sapota, jamun, citrus and amla were planted by 63 farmers of cluster villages and 170 farmers of ENP villages.

In **Tiruchi**, one group in ENP area has taken up the programme on 5 acres of community land with mango, sapota, aonla and tamarind.

In **Bellary**, farmers have planted 329 mango and 171 sapota seedlings in their backyards.

Farmers from Puchaladinni village in **Raichur** have installed 300 earthen pots to provide pitcher irrigation and protect DLH plants during summer. Farmers found out that watering plants, once in 5 days, is necessary.

### Kitchen Gardening

Kitchen gardening was promoted in Tiruchi, Bijapur, Raichur, Mahbubnagar and Bellary Units. Different types of indigenous vegetable seeds were procured from Green Foundation, BIRD – K, from farmers during Green Festival, and distributed to farmers. In Bijapur, nearly 45 farmers have raised kitchen gardens around their farmhouse. Follow up visits indicated that farmers are saving Rs. 40 to 60 on vegetables every week. The results in Tiruchi indicated that availability of vegetables (tomato, bhendi, lablab, ridge and snake gourds, etc.) is about 50 kg in six months (Annexure 4).

#### Box 4: International Kitchen Garden Day

*International Kitchen Garden Day* was celebrated in Bijapur, to reinforce the positive role of organic kitchen gardening in promoting health and nutrition and to build community spirit and motivate them to take up kitchen gardening. AME Foundation-Bijapur in collaboration with Karnataka Biofertilisers Ltd., Bijapur and farmer affinity groups organised an International Kitchen Garden Day on 28<sup>th</sup> August at Jeerankalgi village. Nearly 75 farmers from seven villages of Doddahalla watershed area participated.

The day was inaugurated by sowing/planting 15 kinds of vegetables/fruits in a model kitchen garden. Leafy vegetables like amaranthus, coriander, palak, fenugreek; other vegetables like radish, ridge gourd, bitter gourd, beans, brinjal, tomato, in addition to curryleaf and lime plants were planted. A Kitchen Garden Kit containing 2 kg enriched manure, seeds of Tomato, Ridgegourd and Okra, was distributed to 10 farmers by Karnataka Biofertilisers Ltd., Bijapur.

### Sericulture based farming System

Many farmers practice Sericulture in Upparahalla Watershed area (Kudligi taluk) of Bellary district. Bellary AU worked with 64 farmers organized in to 4 Sericulture groups in 2005-06. Water conservation and management activities in Mulberry gardens, reducing cost of cultivation and stabilizing cocoon production, dryland sericulture on pilot basis were the focused activities.

Two study tours were conducted wherein farmers were made to observe and learn about the latest technologies in dry land sericulture along with water management in mulberry gardens and ways of Uzi fly management.

Trenching in between rows of mulberry and filled with silkworm rearing waste and waste and pongamia leaf material improved the moisture retaining capacity reducing irrigation frequency and resulted in enhanced growth. A farmer applied Jeevamrutha to mulberry plants and realized the benefits in terms of better leaf yield and quality (Annexure 5).

Onion as intercrop and castor as border crop in one year old Mulberry gave additional returns to the farmers.

Farmers have started adopting improved cocoon production technologies. Fourteen farmers have used black boxing cloth to have uniform hatching of eggs. Six farmers have constructed separate rearing houses to ensure good microclimate, ventilation and hygiene for rearing worms. Two farmers in Hosur, a sericulture cluster village, have raised V-1 mulberry cuttings (75,000) to get additional income.

*Ankush*, a plant based bed disinfectant is promoted in place of *Vijetha*, a chemical based (formaldehyde) disinfectant. *Ankush*, is safer to worms, humans and environment besides cost effective to some extent (Rs. 36/kg against *Vijetha* which is Rs. 40/kg). Farmers are convinced about the benefits of the product and are willing to purchase in bulk quantity.

### **Other programmes**

In **Raichur**, farmers of Puchaladinne village have harvested 230 kg of fish during October 2005, which was released three months back in one of the farm pond as an enterprise activity (See Box 5).

A Soil Testing Laboratory and biopesticide /biofertilizer production unit is set up in the **Tiruchi** Area Unit's office premises, to enable farmers to test their soils locally and access bioagents at a low cost. It was formally inaugurated by two farmers on 20th July 2005 amidst officials from State Soil Testing Lab, Biofertilizer Production Unit and CIPMC. The cost of production of *Trichoderma viride* at this lab works out to be Rs 20/kg, which is far less as compared to the cost at which it is presently sold (Rs 100/kg).

In **Dharmapuri**, a community Bio-lab has been set up which was inaugurated on 14 November 2005. It is entirely being managed by a women's group.

In **Madanapalli**, Azolla cultivation as a supplement to fodder, was initiated with 4 farmers in Kothapalli and V.Kota area. Azolla fed to the cattle since two months by one of our farmers has shown an increase of 1.5 litres of milk/day. From a pit of 3x6ft, 1.5-2kgs of azolla can be harvested every day. Besides milk yield improvement, azolla has contributed to improvement in cattle health and milk quality with improved fat content. Observing the benefits, many more farmers have taken up azolla cultivation.

The farmer group at Permathurkudikaadu cluster village in **Tiruchi**, took up direct marketing of the maize to a poultry feed unit at Namakkal bypassing middlemen. Farmers earnings increased by Rs.32 per quintal, which amounted to Rs 5000 as extra gain to the farmers.

As a measure to save the livestock from disease attack and spread, animal health camps were organised in three worst affected villages with assistance from Department of Animal Husbandry.

#### **Box 5: Runoff rain water is a boon for aquaculture in drylands**

K. Venkatesh, a farmer of Puchaladinni village in Raichur, owns four acres of land, of which one acre is situated at the downhill side of the village. This one acre was always filled with runoff water (about 5 ft deep) from the village for about 6-7 months of the year. Because of this, he was unable to cultivate any crop in that field. To convert this situation into an opportunity AMEF Raichur Unit suggested Venkatesh and the group members to go in for pisciculture in that pond as a group activity. Training and exposure visit to Department of Fisheries, Agriculture College, Raichur and other local pisciculture units were organised to show the culturing of fishes in the pond.

Before on set of rain, pond repair was taken up by raising the sides and sieves were fitted to the outlet as a group activity. Strategies for expenditure and revolving fund management were worked out in the group meeting. In the last week of July 2005, 20 Rohu and 110 Common carp fingerlings of fishes were procured and released. Farmers added locally available food items like paddy, sorghum and flour powder from local mill, to the pond and hence the cost of rearing was not much. Mostly children and women were involved and did this work.

After three months, in the last week of October, fishes were harvested. Total quantity of fish harvested was 290 kg and were sold at Rs. 50 per kg. Mr. Venkatesh could make a profit of Rs. 6950/- after deducting the production cost incurred (Rs. 7550) initially and returned the amount (Rs. 3200) borrowed from the group. Now he and his family have decided to continue pisciculture on their own. Other members of the group are also encouraged after seeing the benefits of remunerative subsidiary activity.

## 4.2 SA practices in ENP Villages

### 4.2.1 Natural resources management

#### *Conservation and management of soil and water*

The staff members of ENPs were trained before season and a joint action plan was evolved to spread suitable NRM activities in their areas of operation and the AMEF staff followed up with implementation. Most of the soil conservation practices were promoted before the beginning of cropping season. All ENPs across AUs were largely successful in spreading the practices and influencing their farmers to practice these methods. Moisture conservation and efficient water management practices were prominently adopted during the cropping season (Table 10).

**Table 10: Number of farmers practicing soil and water conservation activities in ENP villages**

| Activity                              | BEL |     | BJP |     | RCH |     | TIR |     | DPI |    | MPL |     | MHB |     | Grand Total |      |
|---------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-------------|------|
|                                       | P   | A   | P   | A   | P   | A   | P   | A   | P   | A  | P   | A   | P   | A   | P           | A    |
| Fall / early ploughing                | 120 | 120 | 150 | 209 | 131 | 199 | 700 | 483 | 360 | 24 | 578 | 332 | 140 | 178 | 2179        | 1545 |
| Land preparation across the slope     | 100 | 160 | 150 | 210 | 71  | 141 | 175 | 450 | 360 | 24 | 578 | 332 | 120 | 140 | 1554        | 1457 |
| Bunding and bund repair               | 200 | 160 | 60  | 158 | 73  | 139 | 700 | 363 | 360 | 4  | 80  | 83  | 60  | 178 | 1533        | 1085 |
| Small section / interception bunds    |     | 0   |     |     | 50  | 69  | 50  | 52  | 180 |    |     | 0   |     | 20  | 280         | 141  |
| Ridges and furrows                    | 20  | 0   |     | 36  | 50  | 67  |     |     |     |    |     |     | 30  | 0   | 100         | 103  |
| Graded Furrows                        |     | 0   |     |     |     |     | 100 | 110 | 45  |    |     |     |     | 5   | 145         | 115  |
| Compartment bunding                   |     | 0   | 11  | 10  | 5   | 0   | 100 | 140 | 95  |    |     |     |     |     | 211         | 150  |
| Gully Plugging                        |     | 0   |     | 77  | 32  | 16  |     |     |     |    |     |     |     | 0   | 32          | 93   |
| Farm ponds                            |     | 0   | 6   | 3   |     |     | 15  | 0   |     | 4  |     | 0   |     | 0   | 21          | 7    |
| Drip Irrigation                       |     | 0   |     | 50  |     |     |     |     |     |    |     | 0   |     | 1   | 0           | 51   |
| Protective water management practices |     | 2   |     | 127 |     |     |     |     | 100 |    |     |     | 60  | 24  | 160         | 153  |
| Dead furrows/conservation furrows     | 4   | 2   |     |     |     |     |     | 22  | 60  |    | 100 | 0   |     | 20  | 164         | 44   |
| Others *                              |     | 2   |     | 59  |     | 50  |     |     |     |    |     |     |     |     | 0           | 111  |

\* Trenching along border, Mulching, Ring trench biomass application, Biomass in trenches, Intercultivation

#### *Soil fertility improvement*

Efforts of ENPs in promoting the soil fertility improvement practices among their farmers across AUs were highly significant in 2005. They were successful in making use of the knowledge gained through the interactions, training and study tours conducted by AMEF and in effectively transferring them to their farmers to make them to adopt almost all the planned SA technologies. Significant among them were, motivating farmers to use bio fertilizers (1544 farmers), grow legumes in and around their main crop (1422), and apply balanced dose of fertilizers (844). ENP farmers constructed significant numbers of composting (1020) and vermicomposting (428) units (Table 11). Five hundred and eighty four farmers enriched their FYM before application with rock phosphate and microbials.

Farmers of Eco network groups are translating knowledge into action in a big way. Farmers of Kurlerdoddi in Raichur constructed one farm pond and dug 510 pits for planting mango, aonla, sapota and tamarind on 20 acres of dryland under DLH Programme. Eco Network group farmers of Deodurga taluk constructed 10 vermicompost units collectively under the technical guidance of the Area Unit. Also planted 145 and 75 mango seedlings in Yaramarsal and Devaragudda villages, respectively.

Ten group members of Sugurall village of Prerana ENP prepared approximately 40 quintals of vermi compost in three months period. Many farmers from neighbouring villages are visiting the compost site. Farmers are convinced with the practice and have started producing vermicompost on their own.

**Table 11: Number of farmers practicing soil fertility improvement activities in ENP villages**

| Activity                             | BEL |    | BJP |     | RCH |     | TIR |     | DPI |     | MPL |     | MHB |     | Grand total |      |
|--------------------------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|------|
|                                      | P   | A  | P   | A   | P   | A   | P   | A   | P   | A   | P   | A   | P   | A   | P           | A    |
| Tank silt application                | 20  | 8  | 8   | 25  | 8   | 10  | 100 | 4   |     | 0   | 60  | 34  |     | 42  | 196         | 123  |
| Balanced fertilizer application      | 200 | 80 | 160 | 80  |     | 162 | 700 | 483 | 360 |     | 578 | 0   | 40  | 39  | 2038        | 844  |
| Use of bio fertilizers               | 200 | 80 | 160 | 133 | 295 | 287 | 700 | 475 | 360 | 45  | 578 | 441 | 180 | 83  | 2473        | 1544 |
| Enriched FYM application             | 10  | 0  | 25  | 40  | 12  | 6   | 700 | 475 | 360 | 45  | 60  | 0   | 20  | 18  | 1187        | 584  |
| Composting                           |     |    | 30  | 41  | 185 | 143 | 700 | 404 | 360 | 167 | 205 | 176 | 135 | 89  | 1615        | 1020 |
| Vermicomposting                      | 40  | 30 | 4   | 96  | 191 | 130 | 150 | 38  | 30  |     |     | 63  | 30  | 71  | 445         | 428  |
| Legumes as inter/border, mixed crops | 170 | 80 | 120 | 65  | 225 | 276 | 700 | 389 | 320 | 0   | 578 | 492 | 70  | 120 | 2183        | 1422 |
| In-situ green manuring               |     |    |     |     | 40  | 13  | 350 | 216 | 90  |     |     | 6   |     |     | 480         | 235  |
| Sheep penning                        |     |    |     | 15  | 6   | 4   |     |     |     |     |     |     |     |     |             |      |
| Others*                              |     |    |     | 28  |     |     |     |     |     |     |     | 60  |     | 2   | 0           | 90   |

\*Biogas, Vermi-wash, jeevamruta, neem cake application, incorporation of crop wastes

#### 4.2.2 Natural resources utilisation

##### *Promotion of good crop-specific production practices in ENP villages*

AMEF, in association with ENPs across AUs, planned to spread better crop production practices to many farmers. Farmers were trained on using good quality seeds (1840 farmers) and to use improved varieties (803 farmers), maintaining optimum plant density (1023 farmers), adopting IPM approach of plant protection (1422 farmers), taking up seed production and multiplication activities (77 farmers) and utilising efficient cultivation equipments (23 farmers). However, crop rotation (329 against 690 farmers planned), promotion of sequential and alternative crops (none against 190 planned) did not catch much attention in ENP areas and therefore need focused attempt in the coming year (Table 12).

**Table 12: Number of farmers adopting improved crop production practices in ENP villages**

| Activities   | BEL |    | BJP |     | RCH |     | TIR |     | DPI |    | MPL |     | MHB |     | Grand total |      |
|--|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-------------|------|
|  | P   | A  | P   | A   | P   | A   | P   | A   | P   | A  | P   | A   | P   | A   | P           | A    |
| Use of good quality seeds                                      | 120 | 87 | 120 | 137 | 295 | 381 | 700 | 440 | 360 | 45 | 578 | 492 | 110 | 258 | 2283        | 1840 |
| Maintaining optimum plant density                              | 70  | 45 | 100 | 1   | 275 | 217 | 700 | 340 | 360 | 45 | 578 | 225 | 240 | 150 | 2323        | 1023 |
| IPM - using alternatives to pesticides- bio agents/ botanicals | 200 | 80 | 160 | 84  | 300 | 228 | 300 | 400 | 50  | 45 | 175 | 401 | 240 | 184 | 1425        | 1422 |
| Varietal trials  |     | 3  |     | 47  | 13  | 129 | 100 | 12  | 60  |    |     | 2   | 11  | 18  | 184         | 211  |
| Use of improved varieties                                      | 20  | 4  | 20  | 126 | 20  | 186 | 100 | 40  | 60  | 45 | 93  | 298 | 19  | 104 | 332         | 803  |
| Seed production / multiplication                               |     | 3  |     |     |     | 34  |     | 5   |     |    | 56  | 27  | 10  | 8   | 66          | 77   |
| Promoting crop rotation  |     |    | 40  | 0   | 300 | 189 | 300 | 50  | 90  |    |     |     | 50  | 90  | 780         | 329  |
| Promoting alternative and sequential crops                     |     |    |     |     |     |     | 100 | 0   | 90  |    |     |     |     |     | 190         | 0    |
| Introduction of efficient cultivation implements               |     |    |     | 10  |     | 1   |     |     |     |    |     |     | 9   | 12  | 9           | 23   |
| SRI method of rice cultivation                                 |     |    |     |     |     |     |     | 3   |     |    |     | 15  |     | 25  | 0           | 43   |
| Seed treatment with local resources                            |     |    | 100 | 63  | 300 | 32  |     |     |     |    |     |     | 180 | 78  | 580         | 173  |
| Introduction of minor millets                                  |     |    |     |     |     |     |     |     |     |    |     |     |     |     | 0           | 0    |
| Strip cropping   | 21  | 20 |     | 5   |     | 1   |     |     | 60  |    |     |     |     |     | 81          | 26   |

### Increasing biomass availability in ENP villages

As in cluster villages, AMEF has motivated its ENPs to promote plant biomass on and off the farm during 2005 – 06 in their area of operation. ENP staff members and farmers were taken to different farms to convince them about the importance of biomass generation and utilisation to add organic matter to the soil. Seeds and seedlings of suitable plant species were obtained by linking them to other agencies like Departments of Agriculture, Horticulture, Forest, BIRD-K etc. Good rainfall during the season in the AUs and close monitoring and supervision by both AMEF and ENP staff made the farmers to take up the planting of seeds and seedlings along the field bunds (1197 farmers against 1698 planned) and planting for fodder purpose (grasses, *Stylozanthes*, etc., 566 against 322 farmers planned). Nurseries could be encouraged enough to meet the demand during the ensuing season (171 against planned 361 farmers had nurseries). Kitchen gardening, Azolla cultivation were also taken up extensively by farmers in the ENP areas (Table 13).

**Table 13: Number of farmers involved in biomass programmes in ENP villages**

| Activities                              | BEL |    | BJP |     | RCH |     | TIR |     | DPI |    | MPL |     | MHB |     | Grand total |      |
|---|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-------------|------|
|   | P   | A  | P   | A   | P   | A   | P   | A   | P   | A  | P   | A   | P   | A   | P           | A    |
| Bund plantation for bio-mass production | 200 | 80 | 50  | 235 | 300 | 235 | 300 | 250 | 180 | 0  | 578 | 270 | 90  | 127 | 1698        | 1197 |
| Recycling – Green manure                |     |    |     |     | 40  | 0   | 300 | 211 | 90  |    | 40  | 0   | 50  | 0   | 520         | 211  |
| Nursery Raising                         | 25  | 55 | 20  | 0   | 185 | 85  |     |     | 60  | 20 | 8   | 1   | 63  | 10  | 361         | 171  |
| Fodder production                       | 75  | 80 | 12  | 229 |     | 127 | 100 | 100 | 60  |    | 40  | 25  | 35  | 5   | 322         | 566  |
| Others*                                 |     | 81 |     | 33  |     | 13  |     |     |     | 45 |     | 45  | 108 |     | 0           | 325  |

\* Azolla Production, Agro-Horticulture, Kitchen gardening, Sericulture

### 4.2.3 Crop based programmes

In ENP groups, many farmers were involved in FFS or PTD or trials in groundnut, paddy, sorghum, tomato, cotton, castor and vegetable based farming systems (Table 14).

**Table 14: Number of farmers in different crop based programmes in ENP villages**

| Activities                              | BEL |    | BJP |     | RCH |     | TIR |    | MPL |     | MHB |     | Grand total |     |
|---|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-------------|-----|
|   | P   | A  | P   | A   | P   | A   | P   | A  | P   | A   | P   | A   | P           | A   |
| Groundnut based farming systems IFS/FFS |     |    |     |     | 50  | 156 |     | 83 |     |     |     |     | 50          | 239 |
| Groundnut FFS                           | 80  | 80 |     | 39  |     |     |     |    | 578 | 386 |     |     | 658         | 505 |
| Groundnut PTD                           | 80  | 80 | 20  | 84  |     | 84  | 275 | 0  |     | 5   |     | 0   | 375         | 253 |
| Paddy PTD                               |     |    |     |     |     |     |     |    |     | 24  |     |     | 0           | 24  |
| Sericulture PTD/trial                   |     |    |     |     |     |     |     | 4  |     |     |     |     | 0           | 4   |
| Sorghum based cropping system–PTD/trial |     |    | 80  | 233 |     | 2   | 25  |    |     |     |     |     | 80          | 260 |
| Pomegranate -PTD                        |     |    | 20  | 32  |     |     |     |    |     |     |     |     | 20          | 32  |
| Tomato Based Cropping System-FFS        |     |    |     | 20  |     |     |     |    |     |     |     |     | 0           | 20  |
| Tomato Based Cropping System-PTD        |     |    |     | 20  |     |     |     |    |     |     |     |     | 0           | 20  |
| Cotton based farming systems IFS/FFS    |     |    |     |     | 100 | 0   | 33  |    |     |     | 80  | 0   | 180         | 33  |
| Cotton PTD                              |     |    |     |     |     | 4   | 40  | 0  |     |     |     |     | 40          | 4   |
| Dry Land Horticulture (DLH)             |     |    |     |     | 50  | 67  | 40  | 0  |     |     |     |     | 90          | 67  |
| Castor based farming system PTD/FFS     |     |    |     |     |     | 62  |     |    |     |     | 160 | 258 | 160         | 320 |
| Tree-based farming in groundnut - IFS   |     |    |     |     | 30  | 110 |     |    |     |     |     |     | 30          | 110 |
| Maize PTD                               |     |    |     |     |     |     | 40  | 61 |     |     |     |     | 40          | 61  |
| Vegetables IPM                          |     |    |     |     |     |     | 40  | 49 |     |     |     |     | 40          | 49  |
| Others*                                 |     |    |     |     | 6   | 3   | 301 |    |     |     |     |     | 6           | 304 |

\* Maize based FS, Promotion of kitchen gardening, Pulses

Most of the programmes were implemented in the second half of the year 2005, except programmes in groundnut, sorghum and tomato. Groundnut being the major crop across AUs of AMEF, many farmers were receptive to take new initiatives and learn more things. Heavy rains affected the implementation of many planned groundnut programmes at Tiruchi AU. Some other programmes like kitchen gardening, trials in pulses and safflower were promoted and many farmers took them up in the later stage of the cropping season.

In **Raichur**, among the different varieties tried out by farmers in SRDS and SWARD NGO working areas, VRI 2 variety is doing well followed by R 8808 and GPBD 4. VRI 2 yielded better with big sized pods and also recorded highest bio mass production. The experience and outcome of these trials were shared with other farmers during the field day (Annexure 6).

Trials were taken up in conventional paddy with variation in days of transplantation – 18 DAS, 20DAS, 22DAS and 24 DAS. This has been tried out with 8 farmers in 4 ENPS with a spacing of 25 cms. These options have been tried out to assess the variation in yield due to spacing and age of the seedling.

## 5. Fostering LEISA Initiatives

Promotion of sustainable agriculture is a complex and slow process. This is so because farmers have to go through a long process of capacity building on the systems of SA addressing three critical dimensions of farming – on-farm rainwater management, soil fertility improvement and improved cropping practices. It involves harnessing suitable alternative practices and adopting sets of practices in combination. Hence, it is necessary to work with few farmers intensively to develop visible models in the vicinity as a learning/training ground and to develop trained, experienced "lead farmers". This, in turn, will create an opportunity to influence large numbers of farmers through models and lead farmers. The lead farmers will be encouraged to enthuse more farmers by interacting in SHGs in the village, train interested farmers and mobilise necessary inputs.

There are evidences of spread of technologies beyond the groups of farmers and villages with whom AMEF is working, either directly or through ENPs. While continuing its efforts in creating eco farming base and scale it up through ENPs, efforts are directed, though sporadically, towards inducing interest among many more farmers and development agencies by spreading proven alternative farming practices. Some of these efforts, particularly observed in older Area Units of AMEF are:

**Tiruchi** Area Unit facilitated training on *Operationalising Sustainable Agriculture* to 15 NGO staff and government officials. The event was organised by KVK, Thanjavur.

The first module of the training on sustainable agriculture was organised by Tiruchi unit for the staff from five network NGOs.

In an effort to foster LEISA, Tiruchi Unit has initiated four Eco-clubs in schools - three in Tiruchi and one in Perambalur cluster villages. Teachers and eco club students were oriented on SA. The school children took the initiative of planting horticulture seedlings in their school premises. One of the eco clubs in Perambalur planted the seedlings in an area of one acre of school land.

In **Madanapalli**, around 24 sangamitras (community volunteers) and two community coordinators of Velugu programme were oriented on SA practices.

**Raichur** Unit oriented the final year BSc-Ag students of Agriculture college Raichur, on activities of AMEF. They were taken on a study tour to cluster villages (Gadhar and Puchaladinni). They interacted with farmers and discussed about soil and moisture conservation, composting, cropping systems, bund planting and DLH.

**Dharmapuri** Unit facilitated discussion among 24 NGOs from 6 districts on ways and means to scale up LEISA practices through collaborative action. The discussion resulted in providing clarity on AME Foundation activities and approaches and creating an activity base for working with other NGOs in the district.

As a means of spreading LEISA initiatives, AMEF has been celebrating special events like the World Food Day, Environmental Day, Women's day etc (See Box 6).

### Spreading SA by ENPs

The staff of ENPs, after obtaining knowledge and skills of SA through trainings conducted by AMEF staff, take them to larger number of farmers in their working area, on their own without the

**Box 6: Celebrating WORLD FOOD DAY 2005  
(Theme: Agriculture and Intercultural Dialogue)**

The Bangalore Unit along with Institution of Agricultural Technologists (IAT) organised the World Food day celebrations on 16 October 2005. Dr. Suryanatha Kamath, a renowned researcher and creative writer in Kannada, was the Chief guest and emphasized on the contributions made by various locales and cultures to agriculture and livestock.

The event was also celebrated in all the Area Units with all its enthusiasm and uniqueness. Farmers participated in large numbers in all the Units. The event was special in the sense that it was honoured by the presence of dignitaries like the Perambalur District Collector in Tiruchi, Dr. C.J. Itnal, retd. Director of Instruction, UAS, Dharwad, in Bijapur, Dr. Ratnakar, Professor, EEI in Mahabubnagar, Prof Venugopal Rao in Madanapalle and Assistant Conservator of Forest in Dharmapuri. The Chief guests shared their views on food security and crop diversity that existed since ancestral period.



*WFD Celebrations at Madanapalle*

The event was marked by various activities like sharing knowledge on agriculture through street plays and songs, exchange of seed material among farmers and exhibition on agriculture related materials, food products, medicinal plants, etc

The event was covered extensively by regional newspapers (Eenadu, State Times and Indian Express Andhra Jyothi, Deccan Herald Prajavani, Vijaya Karnataka, Raichur Vaani, Eenadu, Vaartha, Andhra Prabha, Thinamalar etc), AIR (Tiruchi and Raichur) and regional TV channels (AMN TV, MC TV, Karan TV and Win TV).

involvement of AMEF assistance. Raichur, Tiruchi and Madanapalle, ENPs are working with AMEF for many years and have moved ahead in the understanding of certain SA principles and practices and are successful in making their farmers to adopt few technologies. Fall ploughing, land preparation across the slope, bunding, use of biofertilizers, balanced fertilizer application, composting and vermicomposting, legumes as border or inter crops, use of good quality seeds, adopting IPM practices, crop rotation are some of the SA practices farmers adopted in these three AUs.

In some of the AUs, mostly the older Units, the ENPs are training more groups of farmers other than AMEF supported farmers, after obtaining the knowledge and skills on various SA practices, and thus they are spreading certain useful SA technologies. They are achieving this goal of reaching more farmers by providing motivational training events and, at times, investing resources by linking the groups to various schemes of development departments. The data on such scaling up is given below.

**Table 15: Number of farmers sensitised about SA practices by ENPs in 2005 - 06**

| Sl. No | Area Unit    | No. of farmers |             | No. of villages |           |
|--------|--------------|----------------|-------------|-----------------|-----------|
|        |              | P              | A           | P               | A         |
| 1      | Madanapalle  | 326            | 602         | 18              | 10        |
| 2      | Mahabubnagar | 0              | 187         | 0               | 0         |
| 3      | Raichur      | 75             | 207         | 3               | 15        |
| 4      | Bellary      | 0              | 300         | 0               | 0         |
| 5      | Bijapur      | 0              | 300         | 0               | 0         |
| 6      | Tiruchi      | 500            | 1314        | 0               | 5         |
| 7      | Dharmapuri   | 0              | 0           | 0               | 0         |
|        | <b>Total</b> | <b>901</b>     | <b>2910</b> | <b>21</b>       | <b>30</b> |

In Tiruchi, scaling up by NGOs enabled wider reach of Sustainable Agriculture activities to farmers beyond the working area. The farmer federations have gained strength and have involved themselves in various activities such as organizing horticulture seedlings for group members, input mobilization and managing input costs of groups. Each federation has also evolved a plan of action for 2006.

A total of 2910 farmers were sensitised about the SA practices by the partners of Karnataka (807 farmers), Tamil Nadu (1314) and Andhra Pradesh (789 farmers, Table 15).

## **6. Social methods of development**

### **6.1 PRA, PTD and FFS**

AMEF has been utilizing different participatory processes like PRA, FFS and PTD to promote SA practices across AUs in specific crops. Problems were analysed through PRA, options were worked out and the farmers were involved in the process of developing suitable strategies to combat the adverse situation.

Though problems were identified and analysed through PRA, while executing programmes intensive involvement was ensured to accommodate all farmers in one or the other processes, either in problem solving PTD or discovery learning FFS or in some demonstration trials, both in cluster and ENP groups.

It is evident from the results that farmers showed lot of enthusiasm to adopt and practice SA practices and responded positively to the social methods of development.

#### **6.1.1 Season Long Training of Trainers on Farmer Field School - IPM In Vegetables**

AMEF, during its project phase, and the present-day AMEF as an NGO, is known as much for its pursuit of promoting LEISA as for its major approaches like PTD and FFS. To continue the legacy, we had plans of improving the way we were using these approaches as means of empowering farmers.

The issue of training staff of AMEF in FFS methodology was discussed with Mr. Paul ter Weel when he visited AMEF in January 2005. He promised to find some good resource persons. The idea was that AMEF would organise a ToT where many staff members could get trained instead of sending a few staff for training to places like Philippines. Mr. Paul ter Weel was looking for resource persons and the matter was shared with Dr. P.S. Rao, FAO. Dr. Rao then took the matter further.

A Curriculum Development Workshop (CDW) was organised with Mr. Prabhat Kumar as the Master Trainer at Muthyalapadu from 11 to 16 April 2005 (6 days). Ten staff members from AMEF, including myself, participated in the workshop.

#### **Venue, duration and crop**

The Season Long Training of Trainers (SLTP) on Farmer Field School-IPM in Vegetables was held at BIRDS Training Centre, Muthyalapadu, Kurnool District from 2.05.2005 to 7.08.2005, including a six-day study tour to Kolkota (98 days, in all).

Bhendi (Okra) was chosen as the main crop for the ToT since there was no original work done on Bhendi FFS, elsewhere.

#### **Participants**

Eight staff members from AMEF and one from partner NGO, SDDPA, Mahbubnagar, participated in the event. Two more AMEF staff members, Mr. Chandrasekhar and Mr. Lawrence, returned at the early stages for personal reasons. The eight AMEF participants represented Bellary (2), Bijapur (2), Raichur (1), Madanapalle (1), Mahbubnagar (1) and Tiruchi (1) Area Units. In all, there were 31 participants with 19 from APFAMGS, 2 participants from APWAM project and one from World Education.

## List of AMEF participants

| S. No. | Name and Designation                           | Area Unit   |
|--------|--|-------------|
| 1      | Gurudatt M Hegde Area Unit Coordinator         | Bellary     |
| 2      | Naganagouda M Area Project Officer             | Mahbubnagar |
| 3      | P. Maheswara Reddy Area Project Officer        | Madanapalle |
| 4      | Ravindranath Reddy Area Project Officer        | Bellary     |
| 5      | Rudragouda CS Area Project Officer             | Bijapur     |
| 6      | Suresh BK Area Project Officer                 | Raichur     |
| 7      | Thirumal G Communication Coordinator           | Tiruchi     |
| 8      | Yogesh GH Area Project Officer                 | Bijapur     |
| 9      | Rameshbabu N Lab Technician, SDDPA, Wanaparthy |             |

## Faculty

The training program was organized under the overall supervision and guidance of **Dr. P.S. Rao**, National Professional Officer, FAO. A team of one coordinator and four facilitators managed the day-to-day activities of the TOT. Particulars of facilitators are as follows:

| Name                 | Designation            | Affiliation                           |
|----------------------|------------------------|---------------------------------------|
| Mr. S.S. Kandagal    | Subject Expert – Agri. | Technical Support Team, APFAGMS       |
| Mr. C. Konda Reddy   | State Coordinator      | World Education, India                |
| Mr. K. Nagaraj       | Agriculture Officer    | Karnataka State Dept. of Agriculture  |
| Mr. Hussain Saheb. B | Agriculture Officer    | Karnataka State Dept. of Agriculture  |
| Mr. N. Selvam        | Agri. Devt. Officer    | Tamil Nadu State Dept. of Agriculture |

The following international resource persons handled sessions as backstopping support.

| Resource Person     | Organization                           | Topic Discussed/Facilitated   |
|---------------------|--|---|
| Mr. Handoko Widagdo | World Education Indonesia              | Non-Formal Education, FFS and TOT Management, Water Conservation, Documentation and Preparation of Ecological Guide |
| Mr. Prabhat Kumar   | Asian Institute of Technology, Bangkok | Diseases and White Fly  |
| Mr. Mario E. Corado | World Education, Philippines           | Non-Formal Education, Living Soils  |

There were some External Resource Persons who handled specific sessions. The details are:

| Resource Person          | Organization   | Topic Discussed/Facilitated              |
|--------------------------|--|--|
| Mr. Madhusudhan Reddy    | Horticulture Officer, Kadapa                           | Okra crop production and constraints     |
| Dr. Laxmi Narayana Reddy | Associate Professor, College of Agriculture, Mahanandi | General Agronomic practices of Okra crop |
| Dr. Narasimha Rao        | Principal Scientist                                    | Management of YVMV in Okra               |
| Dr. S.V. Govardhan Das   | Subject Expert, Water Management, APFAMGS, Hyderabad   | Beyond Bugs: Water Conservation          |
| Ajay Rastogi             | Organic Programme Coordinator, FAO, Delhi              | Marketing                                |
| Praveen Dagani           | Agriculture Officer                                    | Communication Skills                     |
| Dr. Giridhar Krishna     | Regional Agriculture Research Station, Nandyal         | Soil Organic Matter                      |
| Dr. S. Jayaraj           | Former Vice-Chancellor, TN Agriculture University      | IPM in Vegetable crops                   |

There were also some visitors, who talked to the participants on some special topics.

| Name                 | Organization & designation   | Topics discussed  |
|----------------------|--|---|
| David. W. Kahler     | Vice President, World Education  | Village Life Schools  |
| James D McNeil       | Program Officer, World Education   | Integrated Conservation and Development Project                               |
| Jan William Ketelaar | Team Leader/ IPM Expert<br>Inter-Country Programme for IPM in Vegetables in South and Southeast Asia, FAO Regional Office for Asia and the Pacific | Asian Farmers as IPM Experts: tackling the pesticide problems at their roots. |
| Arun Balamatti       | Executive Director, AME Foundation   | Indigenous Technical Knowledge: Some Ideas for Action                         |

### Course content

The main content of the ToT included Agro-ecosystem analysis (AESA), long term experiments (LTE), special topics (technical/short studies), special topics (methodological), insect zoo/disease chamber, non-formal education (NFE) and group dynamics exercises, crop care, practice FFS.

### The cost of ToT

The total cost of the event was Rs. 84,12,882 including Rs. 4,11,388 of the CDW and Rs. 80,01,494 of the SLTP. AMEF's share in this cost was Rs. 29,60,559 including Rs. 2,05,694 of CDW and Rs. 27,54,865 of SLTP. The cost per person worked out to be Rs. 3,28,951 for a duration of 104 days including 6 days of CDW and 98 days of the SLTP.

### Gains from the SLTP

Many of the AMEF participants were relatively new to AMEF. The SLTP was an opportunity for eight of them to know the systematics of FFS. Because of their educational background in agriculture they could understand the structure and methods of dealing with technical content in a FFS. With a little extra effort in using NFE methods they could become very good trainers.

### 6.1.2 Short duration Training of Facilitators (ToF) on Farmer Field School-IPM in vegetables

As a follow up of the SLTP in Muthyalapadu, AME Foundation organised a month-long training to build capacities of internal and ENP staff in facilitating FFS methodology. The ToF was conducted during 7 November to 4 December 2005, at the College of Sericulture, Chintamani, Kolar. In all, 21 participants including 14 staff from different ENPs, 3 staff from SEEMA, an NGO in Mulabagilu and 4 AMEF staff, one each from Bellary, Raichur, Mahabubnagar and Tiruchi, got trained in FFS.

The faculty included the Master Trainers of AME Foundation, who themselves were trained rigorously in a season-long training on FFS-IPM, at Muthyalapadu in Andhra Pradesh. Services of experienced resource persons from other institutions were also utilised. Renowned IPM experts like Dr. Balasubramaniam, Dr. Palanisamy Pachagoundar and Dr. V. Raghunathan provided backstopping support to the trainers. The training programme was preceded by a curriculum development workshop.

Tomato crop was the focus around which the FFS training revolved. A farmer's field near Chintamani was leased in for laying out the 'learning plot'. Tomato farmers from the region participated in the programme, enabling the participants to have hands-on training. In addition to the ToF field, for AESA studies, the trainees made observations in farmers' fields with different crop growth stages. At the end, a field day at Kothur village was organized wherein the FFS farmers exhibited great interest in explaining whatever they learned in the previous four sessions at the practice FFS.

The total cost of the event was Rs. 7,74,386 including Rs. 70,767 of the CDW, Rs. 658446 of the ToF and Rs. 45,173 of refresher course. The cost per person worked out to be Rs. 36,876 for a duration of 36 days including 2 days of CDW and 31 days of the ToF and 4 days of refresher course.

The participants are motivated to take the FFS forward. They developed an action plan to organize FFS in their respective States in the coming crop season.

### 6.1.3 Other FFS events

In **Bijapur**, FFS in groundnut was launched with *Sahrudaya Susthira Krishikara Sangha* in Devaranimbaragi village where AMEF is directly working. ISEER an Eco-network partner NGO is also trained to replicate the same with Annapurneshwari women farmers SHG in Sathalagaon village.

In **Mahabubnagar**, FFS in castor was taken up in an ENP (SDDPA) village. A field study of castor semilooper was conducted to make the farmers understand the importance of natural enemies in pest control and also to make them aware about the harmful effects indiscriminate usage of chemical pesticides on natural control agents (Annexure 7).

Similarly, FFS was done in cotton in Gadhar, a cluster village in **Raichur**.

### FFS in progress

Five FFS events are in progress, covering 95 farmers. Four FFS are being conducted in Tomato crop and the other FFS is in Brinjal. The curriculum is provided in Annexure 8.

**Table 6: FFS in progress in ENP villages**

| Area Unit    | Crop    | Season | FFS Events | No. of Sessions | Farmers involved | ENP staff involved | Scaling up* |
|--------------|---------|--------|------------|-----------------|------------------|--------------------|-------------|
| Dharmapuri   | Tomato  | Summer | 1          | 14 (W)          | 27               | 6                  | 135         |
| Tiruchi      | Brinjal | Summer | 1          | 14 (W)          | 8                | 10                 | 40          |
| Bijapur      | Tomato  | Summer | 2          | 14 (W)          | 40               | 5                  | 200         |
| Mahabubnagar | Tomato  | Summer | 1          | 15 (W)          | 20               | 4                  | 100         |
| <b>Total</b> |         |        | <b>5</b>   |                 | <b>95</b>        | <b>25</b>          | <b>475</b>  |

In **Tiruchi**, season-long Farmer Field School (FFS) in Brinjal was started at Nochium village of Perambalur district with 10 farmers and 10 ENP staff. FFS curriculum was developed based on the discussions in the Curriculum Development Workshop (CDW) organised at Tiruchi, in which specialists from College of Agriculture and Horticulture, CIPMC, DoA, trained FFS trainers and brinjal farmers participated.

In **Dharmapuri**, Tomato FFS is initiated in Kottur village of Palacode CMRC with 28 participants including 23 SHG members and 5 ENP staff. The basic objectives are, reducing the cost of production, increasing net returns and producing pesticide free tomato. Practices like enrichment of compost with Rock Phosphate and nursery raising techniques have created widespread interest among the villagers.

The FFS outcomes have started spreading to other farmers and agencies in terms of technologies adopted and the number of other people including NGOs and school children getting firsthand awareness.

## 6.2 Gender initiatives

Gender and social organisation are integral part of the programmes. AME Foundation adopts family approach, in which both men and women are involved in planning, savings, training events etc. In periodic meetings held with farmer groups, both in cluster and ENP villages, efforts were always made to involve more and more women and create interest among them about improving their livelihood. Women have showed lot of interest and response to programmes like kitchen gardening, composting, vermicomposting, nursery raising, propagation techniques, etc. Apart from these, women participation was encouraged in field days, vision building tours, demonstrations, etc.

In 2005 -06, out of 3635 farmers (Table 16), with whom AMEF worked in clusters and through ENPs to promote SA practices across different AUs, 981 were women (27 per cent) and they were actively involved in all the programmes in their groups and villages.

**Table 16: Gender segregated data across all Area Units**

| Area Unit    | Cluster                    |                            |            | ENP                         |                            |             |
|--------------|----------------------------|----------------------------|------------|-----------------------------|----------------------------|-------------|
|              | Male                       | Female                     | Total      | Male                        | Female                     | Total       |
| Bellary      | 185                        | 36                         | 221        | 188                         | 32                         | 220         |
| Bijapur      | 66                         | 48                         | 114        | 263                         | 89                         | 352         |
| Raichur      | 101                        | 6                          | 107        | 404                         | 79                         | 483         |
| Tiruchi      | 92                         | 74                         | 166        | 324                         | 159                        | 483         |
| Dharmapuri   | 49                         | 11                         | 60         | 0                           | 240                        | 240         |
| Madanapalle  | 96                         | 0                          | 96         | 431                         | 133                        | 564         |
| Mahbubnagar  | 51                         | 2                          | 53         | 404                         | 72                         | 476         |
| <b>TOTAL</b> | <b>640</b><br><b>(78%)</b> | <b>177</b><br><b>(22%)</b> | <b>817</b> | <b>2014</b><br><b>(71%)</b> | <b>804</b><br><b>(29%)</b> | <b>2818</b> |

Efforts were made to have exclusive women groups across AUs and to train them in production of bio-fertilizers, nursery raising, compost production, seed treatment, etc., and the women have readily responded. All the 12 groups with which AMEF is working through ENPs in Dharmapuri are exclusively women groups. AMEF's willingness to promote SA through women SHG groups was one of the considerations before choosing to work with CMRCs in Dharmapuri. An action plan for forging gender initiatives has been prepared (Annexure 9).

Special need based capacity building activities were organised for women. Women from Mahabubnagar Area Unit were sent for a four-day residential training programme on nursery raising techniques and have taken up nursery raising activity for bund plantation for biomass production. Similarly, Bellary Unit trained 30 women farmers of WYTEP group on sustainable production technologies in groundnut and onion at Kondlahalli.

Two study tours were conducted for women farmers of WDSI Kosgi Mandal Mahila Samakhya in Mahabubnagar to enable them to understand the principles of Non Pesticidal Management (NPM) practices being adopted on community basis.

Women are given training in the preparation and application of botanicals for pest management. Women farmers have started using the leaf extracts of neem, vitex and custard apple for the control of pests in castor and paddy. Depending on the area, women are being trained in pest management using the botanical products that are available in their village.

Women friendly activities like kitchen gardening and intercropping are being promoted and women are finding them very useful in reducing their workload and improving family's food security. Gender

friendly implements like the *Cono weeder* in Tiruchi and *Cycle weeder* in Bijapur were introduced to reduce drudgery in the weeding process that is generally carried out by women in agriculture. In Bijapur, about 14 groups have got one cycle weeder each

A community bio Input lab, for producing low cost bioinputs, was started in Athanur, B. Agharam, a ENP village. This is managed by a group of 10 SHG women. AMEF is offering technical support to this pilot unit, which has started producing VAM.

In one of the cluster villages in Tiruchi, women appreciated the strip cropping in groundnut cultivation that they had never practiced. Earlier as three to four varieties of crop seeds were mixed and scattered all over their fields, it was a difficult task for women to harvest them according to the crop varieties. With AMEF's intervention and creating awareness about this technique, it has reduced their workload in sorting out the different crop. As they are sown in strips, it is easy to harvest the crops as they ripen.

In general, women farmers have shown tremendous enthusiasm in learning and practicing the techniques learnt. Using bio products for seed treatment was well received by all the women farmers across the Area Units, and they saw the difference in growth and less pest/disease attack were noticed. During the second cropping season, they have come forward with a demand for these products and they are linked to the agencies for accessing these products.

## 7. Capacity Building

AMEF, as a resource agency, has a mandate of building the capacities of farmers, ENPs and internal staff, in its endeavour to influence the minds and practices of more farmers and in its effort to create an eco-farming and sustainable base that would address the issues of livelihood improvement and ecological concerns. The qualified and trained staff at Area Units guide farmers in formation of

groups, managing funds, developing linkages, etc. Farmers and ENP staff are given in house trainings on the scope and benefits of SA, taken to vision building tours to show them the different SA models, involved in organizing field days and crop demonstrations, etc. Farmers are convinced to adopt the practices in the interest of maintaining soil health and better environment for future.

Raichur farmers were taken on a study tour to BIRD K Surshetty Koppa to understand the tree-based farming methods. The impact was so enormous that all the women, immediately after returning to their village, planted 3000 seedlings in their land.

AMEF staff members conduct training programmes to eco-farmers in cluster villages. In ENP villages, staff members of ENP conduct capacity building activities to farmers with support from AMEF staff members to promote alternative technologies. In the beginning, AMEF staff members arrange training events in few villages and for few groups involving ENP staff to make them understand the process, content and skills of particular SA concept. The ENP staff acquire the knowledge and spread them in many more villages and groups under their jurisdiction. AMEF staff members provide further field support and guide the ENP staff in all aspects. In 2005, as it was the first year of this kind for ENPs, AMEF staff mostly involved in training activities conducted by ENP staff in their area of operation.

## 7.1 Capacity building of farmers

Farmers' capacities are built through various means and methods. Starting from organising training events, study tours to build their vision on SA models, field days and crop demonstration will be organised to provide a platform for farmers to share their knowledge and to gain from others.

### 7.1.1 Training events

Training programmes are organised for eco-farmers on aspects related to soil and water conservation, soil fertility improvement and productivity enhancement, improved crop production practices, generation and utilization of plant biomass to improve the organic matter content in soil and certain other aspects like marketing, entrepreneurship development, book keeping, etc. Some of the training events organised during the period are:

#### In cluster villages

**Bellary** Unit organised the first three-day modular training for 22 farmers from 9 SA groups at CS&WCR&TC Bellary. The focus of training was on enhancing the capacities of farmers towards adoption and promotion of *in-situ* soil and water conservation, soil fertility up gradation and biomass generation and their roles and responsibilities as lead farmers.

**Mahabubnagar** unit organised training to farmer groups and partner NGOs on in-situ soil moisture conservation, soil improvement practices and crop productivity improvement practices in the field. Also imparted training to farmers on the importance of using good quality seeds and maintaining the optimum plant population.

Farm families in **Raichur** were trained on different components of kitchen garden and management. Similarly women were trained on seed treatment, nursery raising and compost making.

In **Dharmapuri**, farmers were trained on ragi cultivation practices including IPM and INM. Farmers gained deep insight on FYM enrichment. They expressed that this practice was very useful for maintaining better soil health. Farmers from Vadugapatti and Veppanatham villages in Dharmapuri were trained on nursery management and seed treatment with bio-inputs.

Farmers from Thuguvaripalli and at Mittamalapalli in **Madanapalli** were oriented on cattle and sheep management. An animal health camp was also organized in coordination with the Animal Husbandry department

**Mahabubnagar** Unit trained 12 farmers from Parvathapur on SRI paddy cultivation.

#### In ENP villages

In Mahabubnagar, farmers of ENPs like WDS and SDDPA were trained on the use of *Microplitis spp.* and its parasitizing process on Castor semi-looper (*Achoea janata*). These training events helped the farmers to realize the importance and use of biological agents in controlling the castor semi-looper.

Madanapalli unit organised training on composting and vermicomposting for six new farmer groups of NGO partners Myrada, Chaithanya and Spandana.

### 7.1.2 Study tours

Study tours have been organised for farmers from both cluster villages and ENP villages, for farmers to see the practical application of various SA practices, get motivated and adopt in their own farms. Study tours included visits to Research Institutions, Agricultural Universities, other NGOs working on SA issues, SA practicing farmers etc. Farmers were also taken to special events like exhibitions and Melas to get awareness on various aspects related to agriculture.

Farmers from one working area have visited other working areas of AMEF enabling cross learning among farmers.

These tours have helped in increasing awareness and instilling confidence in farmers in adopting the SA practices and better adoption on their fields.

**Table 17: Capacity building events to farmers in cluster villages**

| Activities  | BEL |    | BJP |    | RCH  |    | MPL |    | MHB  |    | TIR  |    | DPI |   | Grand total |    |
|---|-----|----|-----|----|------|----|-----|----|------|----|------|----|-----|---|-------------|----|
|   | P   | A  | P   | A  | P    | A  | P   | A  | P    | A  | P    | A  | P   | A |             |    |
| Pre-seasonal Area Conference                        | 1   | 1  | 2   | 2  | 1    | 1  | 1   | 1  | 1    | 1  | 1    | 1  |     |   | 7           | 7  |
| Training  |     |    |     |    |      |    |     |    |      |    |      |    |     |   |             |    |
| <b><i>In-situ soil &amp; water conservation</i></b> | 14  | 12 | 20  | 15 | 10   | 6  | 20  | 5  | 15   | 6  | 36   | 15 | 4   |   | 115         | 59 |
| <i>Soil Fertility improvement</i>                   | 10  | 12 | 11  | 8  | 9    | 7  | 20  | 7  | 15   | 12 | 25   | 22 | 2   | 2 | 90          | 68 |
| <i>Crop productivity improvement</i>                | 11  | 11 | 22  | 4  | 9    | 4  | 20  | 9  | 15   | 11 | 25   | 2  |     |   | 102         | 41 |
| <i>Bio-mass improvement</i>                         | 10  | 11 | 7   |    | 7    | 5  | 15  | 6  | 15   | 10 | 25   | 15 |     |   | 79          | 47 |
| <i>Others (PRA, Marketing)</i>                      |     | 4  | 7   |    | 2    | 4  | 14  | 3  | 10   | 1  | 25   | 7  | 1   | 1 | 58          | 19 |
| FFS Training/CPEP                                   |     |    | 10  | 8  | 480# |    |     |    | 180# | 4  |      |    |     |   | 670         | 12 |
| Farmers meet  |     |    |     | 1  | 31   | 27 | 2   | 2  |      |    |      |    |     |   | 33          | 30 |
| PTD Training  |     |    | 30  | 5  | 80   |    |     |    | 1    |    | 176# |    |     |   | 287         | 5  |
| Street Plays  | 10  | 15 | 8   | 2  |      |    |     |    |      |    |      |    |     |   | 18          | 17 |
| Lead farmers' Training                              | 40  | 6  | 3   | 3  | 5    |    |     |    |      |    | 5    | 2  |     |   | 53          | 11 |
| Study tours   | 7   | 9  | 5   | 5  | 4    | 14 | 11  | 11 | 6    | 21 | 50   | 5  | 2   | 4 | 83          | 69 |
| Crop Demonstrations                                 |     | 6  |     |    |      |    |     |    | 3    | 10 |      |    |     |   | 3           | 16 |
| Field days  | 3   | 3  | 3   | 2  | 6    | 1  | 1   | 1  | 8    | 3  | 4    | 4  |     |   | 25          | 14 |
| Enterprise development@                             | 5   | 12 | 3   |    |      | 1  |     | 1  |      |    |      |    |     |   | 8           | 14 |
| Training to SHG women                               |     |    |     |    |      |    |     |    |      |    | 80   | 3  |     |   | 80          | 3  |
| Others *  |     | 3  |     | 1  | 1    | 12 | 1   | 1  | 1    | 2  | 6    | 21 | 3   |   | 9           | 40 |

WF day, Kitchen Gardening, Organic Trade exhibition, Yuvachetana, Animal Health, Horticulture, Federation Meeting, Azolla, VAM; # No. of sessions

### In cluster villages

**Tiruchi** unit organised two study tours for farmers and NGO staff to National Dairy Development Board - Erode, Agriculture Research Station - Bhavanisagar and Myrada Thalavadi project, to enable them to learn dryland technologies for soil and water conservation, fertility management, and crop management options. Farmers and NGOs were also exposed to institutions like farmer federations and their functioning.

**Raichur** farmers visited the vermicompost demonstration unit at Wanaparty, managed by SDDPA. Motivated by the visit, farmers of Sugarala village in Devadurga taluk have established a vermicompost unit, which would be managed by the group. In another study tour to BIRD K Surshetty Koppa to understand the Tree based farming methods, the impact was so enormous that all the women, immediately after returning to their village, planted 3000 seedlings in their land.

**Bellary** Unit organised a 3-day study tour for onion growing farmers to Ralegaon Siddi in Maharashtra, to understand community watershed activities and Mahatma Phule Krishi Vidyapeet, Rahuri, to know cultivation aspects of onion. Farmers also visited Onion Research Station and the onion market at Nasik. Farmers also had an opportunity to visit an onion firm which exports onion to Colombo, Malaysia, China and Dubai etc. and learnt about its storage and the grading procedure. Totally 57 farmers from 3 villages (Pujarahalli, SK Hatti and KM Halli) participated in the study tour. Farmers from Bellary also visited Bijapur working area to know more about activities like kitchen garden, biomass plantation, varietal trial in sorghum, vermicompost and IPM in Tomato.

**Mahabubnagar** farmers and Partner NGOs were taken on a study tour to Nandimallagadda, Tadipatri villages to observe the biomass generation, vermi composting, neem seed extraction unit and a dairy farm at Appireddypally. Farmers learnt about the importance of agro forestry, vermi composting, value of farm wastes and IPM practices. Another 20 AMEF farmers from Mahabubnagar area visited Raichur working area to know more about the groundnut based farming system followed in the region.

Around 47 farmers from **Bijapur** were taken on a study tour to Krishi Mela in UAS Bangalore, Lakkihalli and Mysore. Farmers understood the practical ways of on-farm natural resource management in Lakkihalli and tree based farming in Indra Prastha, a farm of Shri. A.P.Chandrashekhar, near Mysore.

**Tiruchi** Unit organised a study tour to 'Farmers Mela', at Tamil Nadu Agricultural University (TNAU), Coimbatore to get the farmers familiarized with the latest developments in the field of agriculture, allied enterprises and improved methods in dry land agriculture. Farmers from Perambalur and ENP staff participated.

**Madanapalli** team organised a study tour for farmers of the direct villages (Mittamalapalli) and ENP villages (B.Kothakota, Piler, V.Kota) to Valasaguttapalli and Kothapalli villages to motivate them on taking up activities like formation of dead furrows, biomass plantation on bunds, composting, vermicomposting, horticulture with drum kit, bee keeping, azolla cultivation and SRI.

### In ENP villages

In Raichur, SWARD ENP village farmers were taken on a study tour to the field of Mr. Mudugote Virupakshappa Jalahalli to see the use of compost in citrus and also integration of small ruminants in farming system.

Around 20 farmers from WDS ENP farmers were taken on a study tour to Dr.Ramreddy dairy farm and 53 farmers from SDDPA ENP to Nandimallagadda village to observe agro-forestry.

Raichur Unit organised a study tour to 37 farmers of ENP villages to Jalahalli, to understand the recycling of wastes for composting.

**Table 18: Capacity building events to farmers in ENP villages**

| Activities                                   | BEL |    | BJP |    | RCH |    | MPL |    | MHB |    | TIR |    | DPI |    | Grand Total |     |
|--|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-------------|-----|
|  | P   | A  | P   | A  | P   | A  | P   | A  | P   | A  | P   | A  | P   | A  | P           | A   |
| Pre-seasonal Area Conference                 |     |    |     |    |     |    |     |    |     |    |     |    |     |    | 0           | 0   |
| Training                                     |     |    |     |    |     |    |     |    |     |    |     |    |     |    |             |     |
| <i>In-situ soil &amp; water conservation</i> | 10  | 14 | 28  | 29 | 9   | 9  | 35  | 35 | 20  | 10 | 39  | 30 |     |    | 141         | 127 |
| <i>Soil Fertility improvement</i>            | 10  | 10 | 14  | 14 | 9   | 9  | 35  | 39 | 15  | 18 | 25  | 46 | 2   | 2  | 110         | 138 |
| <i>Crop productivity improvement</i>         | 10  | 11 | 20  | 6  | 15  | 17 | 35  | 58 | 15  | 20 | 31  | 16 |     |    | 126         | 128 |
| <i>Bio-mass improvement</i>                  | 10  | 8  | 7   |    | 10  | 11 | 35  | 35 | 15  | 29 | 25  | 16 |     | 1  | 102         | 100 |
| <i>Others (PRA, Baseline information)</i>    |     | 1  | 7   |    | 5   | 12 | 10  |    |     |    | 20  | 19 |     | 1  | 42          | 33  |
| FFS Training/CPEP                            |     |    |     | 17 |     |    |     |    | 180 | 8  | 6   | 5  | 11  | 11 | 197         | 41  |
| Farmers meet                                 |     |    |     | 2  | 15  | 99 |     |    |     |    |     |    |     |    | 15          | 101 |
| PTD Training                                 |     |    | 24  | 5  | 31  |    |     |    | 7   | 8  | 176 |    |     |    | 238         | 13  |
| Street Plays                                 | 10  | 8  |     |    |     |    |     |    |     |    |     |    |     |    | 10          | 8   |
| Lead farmers' Training                       |     |    |     |    |     |    |     |    |     |    |     |    |     |    | 0           | 0   |
| Study tours                                  | 6   | 6  |     |    |     | 20 | 3   | 8  |     | 13 | 28  | 4  |     |    | 37          | 51  |
| Crop Demonstrations                          |     |    |     |    |     |    |     |    |     | 2  |     |    |     |    | 0           | 2   |
| Field days                                   | 3   | 2  | 3   | 3  | 7   | 5  | 6   | 5  | 7   | 3  | 9   | 5  |     |    | 35          | 23  |
| Enterprise development@                      |     | 8  |     |    |     | 1  |     |    |     |    | 39  | 25 |     |    | 39          | 34  |
| Training to SHG women                        |     |    |     | 3  |     |    |     |    |     |    | 76  | 83 |     |    | 76          | 86  |
| Others*                                      |     | 1  | 1   |    |     | 29 |     |    |     | 11 | 15  | 14 |     | 6  | 16          | 61  |

\*WF day, Kitchen Garden day, Organic Trade exhibition, Yuvachetana, Animal Health camps, Horticulture, Federation Meeting, Azolla, VAM; # No. of sessions

### 7.1.3 Field days

Field days are organised at the end of the cropping season, where in farmers of that village and also neighbouring villages participate. The results of the cropping season (PTD/FFS) are shared by farmers during this event. Field days help in spreading awareness on crop improvement practices.

Some of the field days organised in the cluster villages are:

Two groundnut field days were organised in DB Halli and Yerrenahalli in **Bellary**. Farmers shared their PTD experiences, results of varietal trials and seed multiplication and the importance of use of bio-agents in controlling pests and diseases. Around 356 farmers, including 149 women participated in the event.

During the groundnut field day, **Bijapur** farmers shared their PTD experience. Observations in PTD plot included good pod filling, 16 per cent improvement in yield compared to control plot and no reduction in the crop yield even with 25 per cent defoliation at 45 DAS. In addition, they also shared their knowledge gained on use of bioagents, identification of insects (harmful or beneficial) and feeding potential through insect zoo studies.

Field day on Groundnut was organised in a farmer's field in Nagannapalli in **Mahabubnagar**. More than 60 farmers participated. Participants in two groups recorded observations, separately in farmers practice and improved practice plots. Participants discussed about the differences observed between the two plots and were convinced about the performance of the demo plot.

Farmers from Puchaladinni and working area of SWARD ENP in **Raichur** shared their experiences on SRI cultivation during the Field Day on SRI paddy in Mahabubnagar.

In all, 234 training events on NRM and NRU, 14 field days, 69 study tours and 16 crop demonstrations (Table 18) were conducted in cluster villages during April 2005 till March 2006. The farmer participation was appreciable across all AUs during the reporting period. During the same period, 526 training events were conducted on NRM and NRU concepts across AUs (Table 19) against 521 planned. Other than these, 51 study tours and 23 field days were organised in ENP villages.

## 7.2 Capacity building of ENP staff

One of the focal activities of AMEF is to develop ENPs by upgrading the knowledge and skills of their staff and to utilize them to spread the concept and message of SA to farmers in their areas of operation. This is done through training programmes, study tours and periodic review meetings and workshops.

AMEF organizes specialized training programmes, workshops, ToTs, etc., to ENP staff on concepts, principles and processes of SA. Some of the training events organised during the period were:

**Bellary** unit organized one day orientation training to farmers and staff of Eco network partners (GUARD and MYRADA) at Kanahosahalli to orient on proper management of revolving fund. Bellary Unit organized a TOT on SA practices in groundnut for ENP staff of all the Area Units. In total, 26 members participated and understood the various concepts related to Sustainable Agriculture and the way AMEF works on the field.

To enable a workforce of ENP staff in the use of PRA tools, **Dharmapuri** Unit organised a trainer's training during 11 – 14 November 2005 at Kottur, Palacode CMRC. A total of 12 CMRC staff were trained intensively during the period.

All the ENP staff members in **Mahabubnagar** were trained in the method of SRI-cultivation of paddy. They in-turn have trained interested farmers of their respective villages for rapid spread of the water and cost reducing technology.

Around 25 ENP staff from five Area Units and one from BAIF participated in the ToT on Sustainable Agriculture and Productivity Enhancement in Groundnut crop from 20-22 December 2005.

Ten ENP staff members from **Raichur** were trained on Groundnut management.

**Tiruchi** Unit organised a three-day documentation workshop for its ENP staff. Essentials of documentation and the importance of linkages with various media for wider dissemination were discussed. Resource persons from the print media and the AIR, Tiruchi participated.

**Table 19: Capacity building events to ENP staff**

| Activities  | BEL |    | BJP |   | RCH |    | MPL |    | MHB |    | TIR |    | DPI |   | Grand total |    |
|---|-----|----|-----|---|-----|----|-----|----|-----|----|-----|----|-----|---|-------------|----|
|   | P   | A  | P   | A | P   | A  | P   | A  | P   | A  | P   | A  | P   | A | P           | A  |
| Gender in Sustainable Agriculture                 | 1   | 1  | 1   | 1 | 2   | 1  |     |    | 1   | 4  |     |    |     |   | 5           | 7  |
| Group strengthening and Revolving fund management | 72  | 11 | 11  | 9 | 5   | 2  | 0   | 6  | 2   | 15 | 2   | 3  | 0   | 1 | 92          | 47 |
| NGO Networks – SA in Watershed                    | 1   | 3  | 1   |   | 2   | 4  | 3   | 3  |     |    | 12  | 1  |     | 1 | 19          | 12 |
| Others (PTD, PRA, Micro-planning                  |     | 3  | 1   | 2 | 2   | 2  |     |    | 27  | 20 | 2   | 31 |     | 2 | 32          | 60 |
| Workshops/review meetings                         |     | 4  |     |   |     | 5  |     |    |     | 3  |     |    |     |   | 0           | 12 |
| Orientation Workshop for Eco-network Partners/ToT |     |    | 2   | 3 |     | 3  |     |    |     |    | 1   | 1  |     | 1 | 3           | 8  |
| Review meetings                                   | 6   | 6  | 8   | 8 | 14  | 20 | 20  | 17 | 12  | 6  | 5   | 5  | 3   | 3 | 68          | 65 |
| Consultative workshops                            |     | 1  |     |   |     |    | 1   |    | 3   |    |     |    |     | 1 | 4           | 2  |
| Study tours                                       |     |    | 1   | 1 |     | 1  | 1   | 2  | 2   | 1  | 1   | 2  |     | 1 | 5           | 8  |

Totally, 126 training events were conducted to ENP staff members across AUs against 148 planned on various SA practices (Table 20), importance of gender and equity in SA, group strengthening and RF management, social methods of development like PRA, PTD and FFS, etc.

AMEF took ENP staff members to exclusive **study tours** to show them the SA models developed by farmers and institutions.

In **Bijapur**, sixteen staff from 3 ENP went on a study tour to KVK Hulkoti, BAIF Soorshetti koppa, MYRADA Kamasamudram and AMEF Units at Bangalore and Madanapalli. They were exposed to activities leading to NRM, NRU, biomass and fodder promotion (Annexure 10).

The ENP staff of Bijapur Unit visited Thuguvaripalli and Valasaguttapalli villages. They observed activities like village nursery for biomass promotion, bund plantation, composting, vermicomposting, SRI and azolla promotion for fodder and green manuring, during their study visit.

Thus, eight study tours were organised for the ENP staff across AUs.

**Periodical review meetings** are conducted for the ENP functionaries and staff, providing them a platform for discussion and acquire new knowledge and skills required for development professionals.

An Orientation Workshop was organised during 6-7 May 2005 at Bangalore, to kick start AMEF – NGOs partnership activities under FAO project. The workshop helped in knowing the activities and working pattern of each ENP and culminated in signing the MoUs.

The pre-seasonal area conference was organized by **Madanapalli** unit to discuss plans for 2005-06 and explore possible linkages from various line departments. There were 120 participants including farmers, staff of all partner NGOs, staff from the department of agriculture and animal husbandry, credit institutions like NABARD, fertilizer dealers and the media. The area unit plans for 2005-06 was presented and the officials from the line departments were asked to identify areas for collaboration. The conference was helpful in initiating linkage with various departments that would be followed up in the coming days.

To prepare the action plan for the AMEF - MYRADA collaborative programme, a planning workshop was organised at Bettamugilalam, near Dharmapuri. The discussions gave clarity on practical ideas for implementation with women SHG groups.

Under Greening the Dry Lands programme, 8 women from both SDDPA and PPDS ENPs in Mahabubnagar were trained on nursery management by BIRD-K, Tiptur. All the women were trained on management of nursery seedlings and some of the techniques on propagation of horticulture and forestry plants.

State-wise post-season workshops were organised for Eco Network Partners (ENP) of Andhra Pradesh, Karnataka and Tamil Nadu during the month of March. The purpose of this workshop was to review the progress made by ENPs in 2005 against their plans and to discuss about their plans to promote sustainable agriculture practices in 2006. Plans and strategies of scaling up of SA knowledge, practices and systems were extensively discussed for influencing large number of farmers in the district. The Chief Functionaries and supervisors from all ENPs participated. The ENPs made a

brief presentation on the highlights of their achievements in 2005 and came out with their plans for scaling up of SA knowledge and practices.

### 7.3 Internal capacity building

AMEF considers it critically important that the professionals keep continuously abreast of the developments in their specialization, as well as in social methods and management. For this purpose, in-house knowledge updating opportunities are provided by way of training events and workshops.

#### 7.3.1 In-house workshops

- On 9 August, '**Systems and Procedures**' were discussed with Area Unit Coordinators and Secretaries. During the meeting, various reporting formats were discussed for streamlining and simplifying reporting procedures and information management at AU and CU level.
- A daylong '**Orientation Programme**' was arranged on 25 August 2005 at Regional Co-operative Training College, Bangalore for all the support staff. The main objective of the orientation was to enable support staff to converge with the other staff and work as a team.
- Three-day '**Induction Training**' was organised for the new staff who joined AMEF. This was done during 24 to 26, October 2005 at Horsely Hills, Madanapalle.
- Every month, specific topics are being discussed during **Study Circle** meetings. The discussions were to evolve common understanding as well as prepare brief guidelines on how we operationalise the concepts in the field. One of the meetings was organised on 24 January 2006 at Central Unit with Ms. Valli Seshan, a well-known person in the NGO sector.
- **Annual Planning workshop**-. Three-day planning workshop was organised at SEARCH Training Institute, Bangalore between 8-10, December 2005. All the programme staff, AAO and secretary (Finance) of the Central Unit, 3 staff from each Area Unit (Area Unit Co-ordinator, one APO and Secretary-cum-Attendant) participated in the workshop. Work Plan for the year 2006 was developed after the deliberations by consolidating AU plans. Some highlights of Work Plan 2006 are,
  - ❖ Month wise activities, along with the budget were prepared in order to have a better clarity on budget utilization for different activities. Admin staff from Central Unit and Secretary-cum-Accountants from all Area Units participated in the workshop, which helped them to have an understanding on the programmes as well as clearer ideas on proper booking of expenses.

Prior to the event, a two-day **Pre-planning workshop** was conducted at Fireflies during 6-7, October 2005. All the Area Unit Co-ordinators along with one programme staff and secretaries attended the workshop.

- A two-day Internal Workshop on '**Road map to Sustainable Agriculture**' was organised during 21-22 March 2006 at DSERT, Bangalore. All programme staff (AUs & CU) participated in this programme. Year wise strategy for five years was discussed and each AU has presented their AU specific strategy.

#### 7.3.2 Internal staff training events

- A three-day training on "**Leadership, Communication skill and Team building**" was organised at 'School of Ancient Wisdom' for all the staff of AME Foundation during 12-14 December 2005. The workshop was conducted by the faculty of 'International Academy for Creative Teaching (iACT)". Totally, 48 staff members took part in the training event.
- All the Area Unit Coordinators along with the Central Unit staff working on LEISA India participated in the **Documentation Workshop** held during 14-16 September 2005. Mr. Jorge Tapur Chevez, from ILEIA, The Netherlands, explained a specific tool designed for systematic documentation of a project or an experience.
- A three-day **Follow-up course for the one month ToF participants** (held at College of Sericulture, Chintamani) during 2-4 February'06 was held at College of Sericulture, Chintamani. ToF participants, Facilitators, Dr. Rajendra Hegde and Mr. Chandra Sekhar participated in it. The

results of the long-term experiments and short-term experiments were discussed, curriculum developed for the FFSs planned in their respective areas were discussed.

- A five-day '**Perspective building Workshop on Gender**' was organised for APOs-GEC and other interested APOs from all Area Units. It was organised at The School of Ancient Wisdom, Devanahalli during 6-10 February 2006. The training was facilitated by the staff from HID Forum (Annexure 11).
- An Interactive session was held with Board members of AMEF and BIRDS, facilitated by FAO consultant Carolyn Sauvage-Mar.

### 7.3.3 AMEF Staff participation in external Workshops/ Meetings

- Dr. Arun and Dr. Salimath attended the concluding Consultative Committee meeting and the Cotton Round Table of APCOT on 15-16 April 2005 at CRIDA, Hyderabad.
- Ms. B. Vijayalakshmi participated in the workshop on '*Paddy supply chain-Developing alternatives*' organised by HIVOS at Hyderabad during 6-7 July 2005.
- Dr. Dwarakinath and Dr. Arun Balamatti attended the Core Team meeting of SGSY special project being implemented by JSS Institution, Mysore, on 15 June 2005.
- Dr. Rajendra Hegde attended a seminar on Bio-diversity at IAT, Bangalore on 24 July 2005.
- Ms. B. Vijayalakshmi participated and shared AMEF's experiences in IPM at the function to release a book on '*IPM for children*' organised by AHIMSA (NGO) at Tiruchi on 18 August 2005.
- Ms B. Vijayalakshmi (Tiruchi) facilitated a session on *Farm oriented micro enterprises for SHGs* in the Workshop for SHG federations of Women Development Cooperation, Tamil Nadu on 24 August 2005 at Perambalur.
- Ms. B. Vijayalakshmi participated and facilitated a session on farm oriented micro enterprises for SHGs in the *Workshop for SHG federations of Women Development Co operation of Tamil Nadu* on 24 August 2005 at Perambalur.
- Mr. M. Lawrence participated in the *Workshop on SRI*, organised by KVK, Sirugamani on 31 August 2005 and shared AMEF's experiences on SRI.
- Mr. Chandra Sekhar attended a training programme on '*Livelihoods-Model I*' conducted by the Indian School of Livelihood Promotion (South India Regional Centre) at Frontier Management Centre, Hoysala Nagara. Bangalore during 25-30 July, 2005
- Mr. M. Lawrence participated and presented a paper on '*Green manures -An option for greening the dry lands*' at the Symposium on 29 September 2005 at Madurai. The symposium was organised by DHAN Foundation.
- Mr. Krishna Prasad from Mahbubnagar attended a workshop on '*Promotion of Bio-pesticides and bio-fertilisers in agriculture*' at NIRD, Hyderabad.
- Mr. Kalyan Babu and Dr. Arun Balamatti participated in the *APRLP Consortium meeting* at Hyderabad during 16-17 November 2005.
- Dr. Arun Balamatti participated in the '*Dialogue on Improving Watershed Policies, Practices and Knowledge to Impact People and Ecosystems*' on 24-25 November 2005 at ICRISAT, Hyderabad.
- Ms B. Sreemathy (Tiruchi), Ms. Sudhamani (Bangalore), Ms. Sudha Bhat (Bangalore) and Ms. Shobha Rani (Madanapalle) attended a one-day *Gender Workshop* organised by FAO at Hyderabad on 10.12.05.
- Mr. G.H. Yogesh and Ms. Sudhamani attended a week-long workshop on '*MPAP capacity building Workshop*' organised by IWMI at ICRISAT, Hyderabad during 12-16, December, 2005.
- Dr. Siddu Madiwalar participated in '*Sharanu Sangama Samarambha*' at Bijapur and delivered a lecture on 'Environmental Protection and Ecological Farming' on 10<sup>th</sup> Dec, 2005. About 1,800 people have gathered during the event.

- Dr. Rajendra Hegde and Mr. Kalyan Babu attended a training programme on '*Management Development Programme on Team Building*' conducted by IRMA at Anand, Gujarat, on 19-22 December 2005.
- Dr. Arun Balamatti, Mr. G. Ravikumar, Mr. Sidhu Madiwalar, Ms. Sudhamani, Ms. Surekha and Ms. Srimathi have participated in a two-day *National Workshop on Gender Aspects in FAO Projects in India*, organised by one of the FAO partners, APWAM for the FAO partnership projects in India (APWAM, APFaMGS and AMEF), during 1-2 February 2006 at Suryalanka resort, Bapatla.
- Mr. KVS Prasad and Ms. T.M. Radha have participated in *International Editors Meeting* during 6-10 February at ILEIA Office, Amersfoort, Netherlands.
- Dr. Dwarakinath and Dr. Arun Balamatti has participated in the conference on '*Leveraging Knowledge for the Water Sector*' organised by Arghyam Trust during its 1<sup>st</sup> Annual Conference at Infosys Campus, Bangalore on 23 February 2006.
- Mr. C.S. Kallimani has presented a paper on sericulture activities of the AU in National seminar Sericulture Extension management.
- Dr. Siddu Madiwalar, AUC-Bijapur, participated in the training on Project Management for Development Organisations, at IRMA, Anand. The training dealt with the knowledge and skills required for identification, selection, preparation, implementation, monitoring, control and evaluation of projects.
- Ms Sreemathy (Tiruchi) attended the training on Biofarms organised by the coordination organisation for the All India Coordinated Project on Biofarms, at Wardha, Maharashtra.
- Mr. KVS Prasad was invited for the workshop on *National Consultation on Food Security Corridor* organised by DDS and DRCSC. The workshop was held during 17-18 October at Hyderabad.
- Mr. KVS Prasad and Ms. T. M. Radha were invited to participate in the two-day workshop on *Perspectives and Strategies for Livestock Development in Rainfed Agriculture* organised by Anthra at MANAGE, Hyderabad.
- Dr. Arun Balamatti presented a paper at the Winter School on *Appropriate Extension Strategies for Promotion of Organic Farming*, at UAS, Dharwad on 12 November 2005.
- Dr. Sarvajna B Salimath, AUC Raichur, participated in the *Workshop on Livestock in Sustainable livelihoods*, organized by LEAD advocacy network, at Mysore.

#### Upgrading agricultural growth in Karnataka A panel discussion

The Indian Institute of Public Administration (IIPA) in collaboration with AME Foundation, IAT, UAS and IIPM had arranged a panel discussion on *Upgrading agricultural growth in Karnataka* on 19th December 2005. Former Vice Chancellors, Scientists from UAS, Economists and other related organisations were involved in the discussion. The IIPA which was the lead agency processed the views that emerged in panel discussion and forwarded to Government of India.

#### Other events

AMEF participated in **INDIA ORGANIC – 2005**, Trade Show (The Market Place For Organic People), organised by the International Competence Centre For Organic Agriculture (ICCOA) at Lalbagh, Bangalore, from 4 - 7 November 2005. AMEF had set up a stall, mainly showcasing activities of AMEF and its publications. There was a good demand for AMEF publications.

AMEF moved into its new premises in April 2005. The new premise of AMEF was formally inaugurated by Ir. Paul ter Weel, RNE, New Delhi. Dr. Daniel Gustafson and Dr P S Rao from FAO, New Delhi were the special guests.

### 7.4 Training graduates in LEISA Technologies – AMEF Fellowship programme

Recognising the need for preparing professionals in Sustainable Agriculture, AMEF has launched a 9-month fellowship programme for selected graduate students from Agricultural Universities. Six candidates are selected for the 2005-06 programme. The programme commenced on 30 May 2005. Two male candidates from Karnataka and four female candidates from Tamil Nadu underwent hands-on training at Area Unit Raichur and Tiruchi, respectively. These Fellowship students started with an orientation on Sustainable Agriculture at the Central Unit in Bangalore. They were then

#### **Box 9: Graduation Ceremony - Fellowship Programme 2005**

Graduation Ceremony of the first batch of Fellowship Programme 2005 on 'Operationalising Sustainable Agriculture' was organised on 30th January 2006. Dr. Daniel Gustafson, FAO Representative in India and Bhutan, FAO, New Delhi was the chief guest. Dr. P. Somashekar Rao, National Programme Officer, FAO, New Delhi, was the special guest for the programme.

After distributing the course completion certificates to Fellowship candidates, Dr. Daniel Gustafson addressed the students and emphasised on giving attention to practice what has been learnt. Dr. P.S.Rao, expressed that there was a need to develop more professionals in the NGO sector. Dr. R. Dwarakinath, Chairman, AME Foundation, presided over the function and said that the fellowship programme took shape after giving a lot of thought. Every student need to be given individual attention in the process of training them in SA.

A book on *Symposium on Sustainable Agriculture* was released by Dr. Daniel Gustafson, on the occasion.

Special invitees in the ceremony included Dr. R. Dwarakinath, Dr. A.M.Krishnappa, Course Coordinator, Dr. Arun Balamatti, Dr. G.N.S. Reddy, Dr. J.Venkateshwaralu, Dr.T.M.Thyagarajan, Dr. M.A.Singlachar. Dr. Mallareddy, Dr. Muthu Velayatham, Dr. K.Pandurangaiah and Mr. S.L.Srinivas.

placed in Raichur and Tiruchi AUs for gaining field experience. As a part of their training, a 10-day study tour was organised from 13 – 23 September 2005 to provide them an opportunity to learn about ways in which SA has been practised, identifying suitable practices feasible in their respective area and working with people.

The first batch of Fellowship Programme completed their course in the month of January. Graduation Ceremony was organised on 30th January 2006. Dr. Daniel Gustafson, FAO Representative in India and Bhutan, FAO, New Delhi who was the chief guest distributed the course completion certificates to Fellowship candidates. A book on *Symposium on Sustainable Agriculture* was released by Dr. Daniel Gustafson, on the occasion.

## **8. Developing Institutional Linkages**

Linkages with public research institutions and progressive farmers enabled AMEF to build knowledge and awareness to the farmers and ENPs. Scientists and Officials of Agricultural Universities and State Departments of Agriculture, Horticulture, Forest, Animal Husbandry, KVKs in all the three states, were constantly contacted for information and resources. Services of scientists of UAS, Bangalore; Central Silk Board, Bangalore; Central Sericulture Research and Development Institute, Talaghatpura, Bangalore; Indian Institute of Horticultural Research, Bangalore; Regional Sericulture Research Institute, Kodti, Bangalore; were utilised for ToF in Chintamani. District Horticultural Co-operative Society of Raichur and many input dealers were also contacted in carrying out the envisaged activities.

Some of the efforts in working together with various institutions are:

A joint concerted action for forming a Sustainable Agriculture group especially in Telangana region is being worked out with AFPRO. Mahabubnagar Unit has been requested to provide training support to farmers under *Vulnerability and Adoptability programme*, which is being implemented in the district.

Ms B. Vijayalakshmi, AUC Tiruchi visited the Myrada KVK Soil Testing Lab (STL) at Gobichettipalayam and shared Tiruchi Area Unit's experiences of managing STL. KVK staff made a follow-up visit to the lab at the AU.

Tiruchi AU was invited by KVK at Thanjavur, to be a resource agency, to facilitate a session on the Soil Testing Lab, wherein 15 NGO staff and government officials participated.

AMEF's experience in SRI is gaining recognition by the formal institutions like the Agricultural University. Tiruchi Unit was invited to share its SRI experiences at the workshop on SRI organized by TNAUs KVK at Sirugamani, Tiruchi.

Mahabubnagar Unit was invited to the Media outreach of SRI cultivation organised by DAATTC, in which AMEF participated along with 17 farmers from 6 villages.

As an outcome of the visits made by RARS, Palem scientists to the Unit followed by discussions, Madanapalli Unit will be participating in the *Rythu Mela* to be organised during the silver jubilee celebrations of RARS, Palem.

RARS-Palem, ANGRAU organised a residential training on crop production and vermi-composting technology for the ENP staff and farmers of Madanapalli area.

Bijapur Unit extended its service as resource organization to Department of Agriculture. A day's training was imparted on "Organic Farming – A Step Towards Sustainable Agriculture" in RSK, Chadachan. 40 women farmers gathered from different villages of Chadachan RSK jurisdiction.

Bellary farmers were invited to participate in "South Indian Dry land Farmers Meet", organized by Central Soil & Water Conservation Research & Training Institute (CSWCT&RI). Around 30 farmers from Bellary AU participated. Street play and models of sustainable agriculture attracted many farmers and officials of line departments.

## 9. Documentation and dissemination

AMEF documents learnings of field experience for sharing and learning purposes. Documentation is done in various forms, both at the CU as well AU level, as described below.

**AME Info**, the quarterly newsletter is being produced which is distributed to selected people interested in AMEFs activities. During the reporting period, four issues of AME Info (Jan-March 2005, April –June 2005, July-Sep 2005 and Oct-Dec 2005) were produced.

**House Magazine:** As the organisation is growing, both in terms of geographical area, programmes and also staff, the need to share information on a regular basis is becoming increasingly important and enriching, both on programme front and for professional growth of individuals. Official information will keep all the staff abreast of what is happening across the Area Units and personal info helps to strengthen as a team by knowing each other well. For this purpose, a House Magazine was started from July 2005 on a monthly basis. From July 2005, 9 monthly issues of the magazine was produced for internal circulation.

**Guidelines for field application:** These are short guidelines to enable the staff in the area units as well as those in the central unit to have a common understanding on how to carry out certain techniques as well as methods in the field. Guidelines – 6 on *Operationalising Sustainable Agriculture* and Guidelines 7 on *Working with people* were produced during this period.

**Selected readings:** These are additional reading material carefully compiled which serve as background materials on concepts. Two **Selected Readings** were released during this period.

Selected Readings 3 – *NGOs as a Driving Force*

Selected Readings 4 – *Insights into Agricultural Development*

**Fact sheets:** Fact sheets for 2005, of all the Units (excluding Dharmapuri AU) along with an overall AMEF fact sheet, were brought out indicating the programme highlights of each Unit in the year 2005.

**Calendar:** A four-page 2006 Calendar was producing indicating the major SA activities. The calendar was widely appreciated.

**Susthira Krishi Chetana Newsletter:** Bellary AU started a monthly Kannada newsletter from January 2006 to document and share the experiences of farmers, staff and others in promoting SA practices.

**Kannada AMEF Brochure:** Bellary AU has prepared AMEF profile in Kannada, which is vastly used across the AUs in Karnataka.

**Training materials:** Bellary AU has prepared training material on insitu moisture conservation and soil fertility improvement. The material found to be useful to the internal staff, ENP staff and master farmers. Prepared Groundnut 12 technologies chart consists of improved practices in groundnut crop.

Tiruchi AU has prepared of training materials on INM for maize, trees for biomass generation, Azolla and vegetable cultivation in homesteads.

AMEF Mahabubnagar brought out two booklets in Telugu; one on "**Rythu Mithra Groups (RMG)- Guiding Principles**" focusing on the on the advantages of the group approach mainly to increase the capacities of the farmers in **Rythu Mithra Groups** and another on "**Sustainable Agriculture—management practices**" with information on sustainable agriculture, importance of soil and water conservation for soil productivity enhancement, concept of INM, IPM, Preparation of botanicals and

biological agents of pest and disease management, Farmer Field schools and also dealt the special topics like Importance of Azolla and SRI method of paddy cultivation.

**Table 20: Number of documentation products produced in 2005 - 06**

| Name of the product                             | BEL |   | BJP |   | RCH |   | TIR |   | DPI |   | MPL |   | MHB |   | CU |   | Grand Total |    |
|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|----|---|-------------|----|
|   | P   | A | P   | A | P   | A | P   | A | P   | A | P   | A | P   | A | P  | A | P           | A  |
| Perspectives and selected readings              |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 2  |   | 2           |    |
| Guidelines for field application                |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 5  | 2 | 5           | 2  |
| Fact Sheets of Area Units                       | 1   |   | 1   |   | 1   |   | 1   |   |     |   | 1   |   | 1   |   | 1  |   | 7           | 7  |
| Periodical reports (Annual/half-yearly)         |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 2  | 2 | 2           | 2  |
| AME info/Newsletter                             |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 4  | 4 |             | 4  |
| Crop production manuals                         | 1   |   |     |   | 1   |   |     |   |     |   |     |   | 1   |   | 1  |   | 4           | 0  |
| Training manuals                                | 1   |   |     |   | 1   | 1 |     |   |     |   |     |   | 1   | 1 |    |   | 3           | 2  |
| Case studies                                    | 2   |   | 2   |   | 5   | 2 | 2   |   |     |   | 2   |   | 1   |   |    |   | 14          | 2  |
| Calendar and Greeting Cards                     |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 1  |   |             | 1  |
| Posters and handouts (Technology & Methodology) | 4   | 4 | 4   | 3 | 1   |   |     |   | 7   | 3 | 2   | 5 |     |   |    |   | 17          | 16 |
| Photo documentation (All Units)                 |     |   | 1   | 2 |     | 5 | 4   |   |     |   |     |   | 1   |   |    |   | 8           | 5  |
| AMEF House Magazines (Monthly and internal)     |     |   |     |   |     |   |     |   |     |   |     |   |     |   | 9  |   |             | 9  |

## Papers

Mr. C. S. Kallimani, APO, Bellary AU, presented a paper on 'Eco friendly practices towards sustainability of Sericulture in KAWAD Watershed' at the International Sericulture Congress Conference.

An article on 'Strip crop-a Ray of Hope' written by Dr. Gurudatt Hegde, Mr. Ravindranath Reddy and Dr. Arun Balamatti was published in LEISA India Magazine in June 2005 Issue.

Paper on *Practices, platforms and policies - AME's experience* by KVS Prasad and B Vijayalakshmi was published in the LEISA magazine, December 2005, Vol 21, No.4.

A paper on *Building documentation and communication capacities*, by KVS Prasad and T. M. Radha has been published in the LEISA magazine, March 2006, Vol 22, No.1.

Article on *Soil and water conservation practices* in "Krishika Bandhu" (Bijapur)

Two articles - *Tomato FFS - Farmers plots are laboratories: farmers are scientists in KAWAD project areas.* and *How a Postgraduate Farmer became Master farmer*, published in "Nela-Jala-Samruddhi"- March 2005 (Bijapur)

Handout on Alternative farming practices in groundnut (*Madanapalli*) and a handout on *SRI Cultivation and dry land production practices* (Telugu) (*Mahabubnagar*) are brought out.

## In the Media

- The outcome of fish enterprise appeared in *Raichur Vaani*, a local newspaper. Information on Field Day celebration appeared in the local newspaper *Raichur Vaani*
- In Bijapur, Tomato field day event and celebration of 'International Kitchen Garden Day' appeared in five of the local newspapers namely Prajavani, Kannada Prabha, Vijaya Karnataka, Samyuktha Karnataka and Usha Kiran.
- Bijapur AU's Post Season Area Conference proceedings were telecasted in *E-TV Kannadanaadi* on 17<sup>th</sup> at 10.30 pm and 18 at 7.30 am. The event was also covered in dailies - *Kannada Prabha* on 19<sup>th</sup> March 2006, *Prajavani* and *Vijaya Karnataka* on 21<sup>st</sup> March, 2006, and in *Sandarshana* on 20 March 2006.
- The field day celebrations were published in *Raichur Vaani* and *Suddi Mula*.
- The training programmes of Tiruchi Unit and its ENPs were covered in two of the local newspapers.

**Box 10: Mahilchi tharum maanavaari - AMEF's programme on the AIR**

Tamil programme titled *Mahilchi tharum maanavaari* meaning *Drylands give joy*, is being aired during the prime time (07.25 AM) on Farm School Programme of AIR Tiruchi. It is a 13-week collaborative programme of AMEF and AIR, Tiruchi which began on March 20<sup>th</sup>. Preparatory activities included a live phone-in programme to get the views of farmers about this programme and a workshop with representatives from the University, Research institutions, credit agencies etc. Based on the farmers views and workshop inputs, a curriculum was developed which include various aspects of dryland NRM and NRU, income generation activities and associated government and banking schemes.

Farmers registered for the programme would be eligible to participate in a one day contact programme and receive the course material and a certificate. As of March 2006, about 1040 farmers from 22 districts of Tamil Nadu have registered for the programme. What is more interesting is that this includes 101 school children.

AMEF's programme is unique for two main reasons. Firstly, the delivery of lessons is on an interactive mode and secondly experience sharing by farmers is a part of every lesson which is a rare feature in such programmes.

- The Training on vermicompost was published in the *Raichur Vaani*.
- The training on Rythu Mithra Groups (RMG) conducted by Mahabubnagar Unit under the RSVY programme was covered in *Eenadu*, a Telugu daily.
- A radio talk on *Sustainable Agriculture Practices and AMEF's efforts in promoting SA*, was given by a farmer from Devaranimbaragi village in Bijapur area, on 30<sup>th</sup> March 2006.
- All India Radio, Tiruchi recorded and broadcasted the experiences of AMEF in five episodes.
- Radio talk on AMEF activities was broadcasted at AIR Raichur in February, 2006. This is covered in the entire district. Farmers have shared about the programme.
- A phone in programme and two of the 13 episodes of the Farm School on AIR programme on SA in drylands were aired by AIR, Tiruchi as a collaborative programme (Annexure 12). The field days of AMEF has been covered in 2 local dailies.
- Field day at KM Halli in Bellary was audio documented by AIR Hospet.
- A Radio talk on the Bellary Area Unit's activities was broadcasted on 19 August 2005 by AIR.
- Mr. Suresh Talawar, a Lead farmer from Bijapur AU, gave Radio talk on AMEF's intervention in Sustainable Agriculture.
- Alternative farming practices for promotion of sustainable agriculture in Groundnut based farming system at Valasaguttapalli & Thotavaripalli, Kammavaripalli and Pathakeelapatla in Madanapalli area was covered by ETV-2, telecasted in the '*Jaikissan*' program on 8 April 2005.
- Street play on SA practices, interaction with master farmers, groundnut and onion production technologies were telecasted on Chandana TV.
- Bellary Unit participated in Doordarshan's unique phone-in programme on interaction between farmers and line departments. Mr. Bandeppa Kashempur, Agriculture Minister, inaugurated the programme. Farmers from all over Karnataka including three farmers from our working area participated.
- Rudragouda, APO, Bijapur Unit, gave a talk on Wheat cultivation methods in ETV Annadata.
- In Madanapalle area, Television channels like ETV and MCTV covered the Field day in groundnut based farming system organised at cluster village- Thuguvaripalli and celebration of World Food day at Madanapalle. The same has appeared in the local newspapers like *Enadu*, *Andhra Jyothi* and *Vaaritha*.
- Training programmes of AMEF Tiruchi and ENPs are covered in five local newspapers and also broadcasted in TV channel.

## 10. Special programmes

### Greening the Dry Land Programme

AMEF-BIRD K partnership project was launched on 15 July 2005 under the name '**Greening the Dry Land**'. Promotion of trees in the farmland is the main focus, which serve different purposes like biomass, fodder, fuel and income. It is an effort to develop innovative SA model by assisting ENPs in motivating farmers to grow trees and improve soil productivity. Two Area Units viz. Raichur and Mahbubnagar are implementing the programme with two ENPs each. The experience sharing and planning workshop was held at BIRD K Tiptur on 23-24 November 2005. Participatory monitoring and reporting tools are developed. ENP chief functionaries, BIRD-K and AMEF took part in the event. Twenty youths from SWARD and SMGAS ENPs from Raichur have undergone a 16-day rigorous training at Tiptur in October. The training event focussed on the role of youth in rural development. The trained youths are expected to work as volunteers in the villages where the programme is being implemented.

Green Festival was celebrated in Sagamkunta and Marrata villages in Raichur area to promote tree planting on wastelands and field bunds. In both the villages, farmers planted nearly 10,000 seedlings in the field trenches. The inspiration of Green Festival and study tour to Soorshettikoppa motivated the cluster village farmers and they also planted 6000 seedlings on the bunds in Puchaladinni and Gadhar villages.

Micro-planning exercise was conducted in Rajanagaram and Siddotam villages in Mahbubnagar. Two green festivals were organized in Rajanagaram (SDDPA) and Siddotam (PPDS) villages under the "Greening the Dry lands" programme with all religious fervour and festive gaiety where the farmers on community basis have planted nearly 36,000 seedlings on the bunds.

**Yuvachetana programme** is a special training programme being offered by BIRD K. The objective is to train rural youth in various activities primarily related to farming, so that they could improve their livelihoods by engaging themselves in productive farming activities.

The programme is aimed at involving the rural youth in community development work. The school dropouts, denied of a respectful place in the society and indulging in bad habits, are chosen and trained on leadership, self discipline, voluntarism, yoga and ayurveda, along with vocational courses like dryland horticulture and tree-based farming.

Ten youth from cluster villages, Gadhar and Puchaladinni in Raichur and a group of 29 youth from four villages in Mahabubnagar were trained under this programme. The trained youth are already showing interest in village development activities and their families are pleased with the positive change in their attitudes.

## 11. Other Projects

### 11.1 RNE Project

The RNE project was concluded on 31 March 2005. The left over money has been expended and the final quarterly report and the audited financial reports are submitted to the Embassy.

### 11.2 APCOT Programme

The APCOT programme on IPM in cotton concluded in April 2005. The year 2004-05 was largely a drought year coupled with poor price, which meant that the farmers in all the villages have suffered losses. The average yields under irrigation and dry land conditions were 9 and 3 quintals, respectively. The pest and disease incidence was rather less. The crop recovered with late rains and that the return from IPM plots were about Rs. 1200-1800 per acre. Despite drought the net returns from IPM plots were double compared to farmers plots (with conventional methods of cultivation).

A few important gains from APCOT initiative are,

- The institutional collaboration in APCOT made it possible to offer the best possible basket of options.
- For the farmers, the returns were more from the experimental plots and that the number of pesticide sprays have gone down and the cost of cultivation has reduced.

- The capacities of farmers and NGOs have improved in using IPM practices, which gives hopes that they would continue to practice them. It is suggested to keep the archives with AMEF. One has to consolidate the whole programme including the details of who has what information. The addresses of all the people involved, links and other relevant information could be made available at one place, thus proposing AMEF to be the repository of APCOT experiences.

### 11.3 KAWAD Project

The DFID supported Karnataka Watershed Development Project (KAWAD) in Bellary, Bijapur and Chitradurga concluded on 30 June 2005. The Area Units set up by AMEF in Bellary and Bijapur, with the KAWAD support, have done good work in the limited time frame and are being continued with FAO support to consolidate the work done so far and to seek opportunities for working with more farmers and NGOs.

### 11.4 LEISA India Project

#### 11.4.1 Magazine Production

Four issues were produced during this period - *Farming with nature*, *On Farm Energy*, *More than Money* and *Contribution of small animals* were produced. A new feature "**Farmers Diary**" was started from the On-farm energy issue. Conscious efforts were made to contact the responsive farmers who showed interest to share their wisdom. Farmers who had responded to the earlier Readers survey were contacted and requested to share their experiences. Communication was initiated with a group of farmers and were encouraged to write. A lot of efforts were made in breaking the hesitation of farmers, particularly the less known ones, to write.

#### 11.4.2 Readership

The total number of subscribers as of March 2006 is **6701**, registering an **increase of 32%** in the last one year.

Of the total, 98% belong to the Indian subcontinent while 2% of the subscriptions reach outside India mainly to countries like Nepal, Bangladesh, Japan, Pakistan, Bhutan etc. Across various categories, NGOs form the major chunk with 32% of the total subscriptions, followed by individuals, academic and research institutions with 25%, 17% and 13% respectively.

The CD on archives (1983-2003) is on great demand. Government departments, NGOs and individuals have shown interest in acquiring one. Around 1300 CDs have been distributed as on December 2005

A PR product in the form of a calendar indicating the forthcoming themes was produced and distributed to all the subscribers in the *More than Money* issue.

#### 11.4.3 Documentation programme

Having entered into the second year of the programme, the first year of the programme was reviewed with a clear focus on institutionalising documentation in the respective organisations of consortium members, during the second year. A Review and Planning Workshop was organised during 2 - 4 May 2005. Programme of last year was reviewed and activities were planned for the second year. At the end of second year, following are some of the major outcomes of the documentation programme:

- Skills of selected individuals from partner organisations have improved.
- There has been a definite shift in thinking – "writing with a purpose". Clarity and understanding on the elements that are required for preparing a complete document.
- Participants had also converted their first base studies into some communication products.
- Efforts to institutionalise the documentation activity was the focus during the second year of the programme. This included involving more staff in the ongoing documentation activities and upgrading the skills of team members through trainings. For e.g., LEISA Network, along with AMEF Tiruchi Unit, took a lead and organised a documentation workshop for NGO

partners. More than 20 NGO staff were trained on various aspects of documentation and communication.

- Having understood the importance of documentation for an organisation, the consortium partners have made conscious efforts in visibilising their organisation's work.

#### **11.4.4 Workshop on "systematisation of documentation"**

Workshop on "systematisation of documentation" was organised during 14-16th September. The documentation tool developed by the Peru team was shared with the workshop participants (all from AMEF). The focus was on using a tool for systematic documentation of a project or an experience. Hands on experience on how to do it through group work. The tool was useful in making participants aware of the different information and dimensions that one needs to look at while documenting.

#### **11.4.5 IEM-India**

ILEIA and AME Foundation together organised an International Editors Meeting near Bangalore during 20th-24th Sep. Focus of the workshop was to have a more common and clear understanding of the forthcoming themes and about the editing process. Editors from all the regional editions of LEISA participated in the workshop. Field visits to an organic farmer field and a conventional farmers field added the most required field exposure to the participants.

LEISA India team's and AME Foundation's efforts were appreciated for the way IEM has been organised in terms of the content and the mix of focussed panel discussions, field visits and clarity achieved and common understanding developed for purposeful working. Small details in designer workshop materials and cultural tours were highly appreciated too. Participants considered the meeting excellent and highly satisfying.

#### **11.4.6 Networking and Outreach**

The Centre for Indigenous Knowledge Systems (CIKS), Chennai, India, has included selected articles from LEISA India in their publication, "Seeds of plenty, Seeds of Hope: On farm conservation of indigenous genetic resources- the Asian experience" with due acknowledgment to the source.

Owing to the popularity of the magazine, authors have been sending books for review.

Prasad and Radha participated in the International Editorial Meeting, Netherlands. A business plan for the next four years was made which was highly appreciated. Participants discussed issues related to quality, themes, sourcing articles, production etc. during the meeting and made some broad plans for the future.

#### **11.4.7 Management**

During this year, special efforts were made to strengthen LEISA India team in terms of additional human resources. The effort was to identify those who have the interest and flair for sourcing and documenting field experiences with reasonable understanding of agriculture as well as rural realities.

Initially an agricultural professional was selected with additional skills in video and photo documentation. Later after rigorous searching and short listing and testing with specific assignments another person has been identified to support the LEISA India team, to source, document theme based field experiences.

Regional editorial meetings were held with consortium partners separately as well as during workshops to strengthen the LEISA India platform both in enlarging the subscriber base as well as contributor base.

Meetings with donors were sporadic except for a meeting with an appointment with IDRC. Liz Faber was highly appreciative of the progress made and the good name LEISA India is getting. Future possibilities are yet to be explored as she shared that as new thrust areas are emerging in their strategies.

Thus, the professional team has three persons now - Managing Editor, Associate Editor and Documentalist with one secretary to support. Layout designing and printing of the LEISA India and PR Products are being done with the help of consultant.

AMEF's outreach is being also effectively used for the spread of LEISA India magazine.

## 11.5 DST Project

A DST project entitled “**Bio-Farms for Livelihood Development of Resource Poor Farmers**” (01.01.2005 – 31.12.2007) is implemented in Tiruchi AU with following objectives.

- To assess system structures and processes in bio intensive resource integrated innovative small /medium farms.
- To document traditional and indigenous knowledge systems / practices.
- To develop bio-intensive model farms and / or farm clusters through participatory research based on agro eco system principles.
- To ensure nutritional and livelihood security of model resource poor small and medium farm households.
- To explore possibilities of forward linkages (including value addition) at individual and collective farm level

The project is implemented in a cluster of four villages (Mazhavarayanallur, Vaithyanathapuram, Permathurkudikaadu and Melaganatham) of Veppur Block, Kunnam taluk, Perambalur district through a launch workshop involving various stakeholders such as Research and Development, Extension and Financial institutions and farmers.

At the field level, the following activities were completed

- Four farmer groups have been formed with 20 participating (Five women) and 53 observer farmers.
- PRA on existing natural resources and its management at the village level and a report prepared.
- Participatory assessment of existing practices and preparation of intervention plans in collaboration with participating farm families.
- Individual farmer baseline data collection and consolidation for the 20 participant farmers of the Project.
- Training on in-situ soil water conservation; soil fertility management, azolla production, kitchen garden and usage of bio-inputs facilitated for the project farmers.
- Installation of rain gauge, electronic minimum and maximum RH and temperature unit in one of the villages of the cluster.
- The interventions initiated with the participating farm families are - Bunding and trenches, composting, dryland green manures, intercropping, multiple cropping, use of bio-inputs, Azolla production for cattle feed and vegetable gardens.
- A study tour was organized for farmers to show them methods of soil fertility enhancement – composting, Vermicomposting, etc

The Project staff were provided with both centralized and field local training on various aspects of the project methodologies and technologies.

A Soil Testing lab has been established at AMEF, Tiruchi AU office premises.

### **The following technologies were experimented for the first time**

- Recording of climatic measurements (such as temperature, RH and rainfall) by the farmers at the village level.
- Sunhemp as a green manure and fodder in drylands that is usually a practice in wetlands.
- Bund stabilization with *Cymbopogon martinii*, a hardy grass which is also used locally as fodder instead of Vettiver.
- Cultivation of as many as five intercrops in Maize as against no intercrops which is the prevailing practice among farmers.
- Adoption of farming system components by 50% of the observer farm families.

Heavy rains in October and December 2005 resulting in flash floods in most of the project area caused 50-60 per cent yield loss in maize, cotton and groundnut. However, the farmers realized the importance of in-situ soil conservation practices taken up in the start of the season. Intercrops like pigeonpea, lablab and castor compensated the loss to considerable extent proving the practice as a ray of hope to farmers.

The on-farm water management practices conserved moisture effectively in soil enthrusting all 20 participating farmers to take up dryland horticulture with mango, aonla, sapota and tamarind and to plant *Glyricidia* and *Cassia siamea* on bunds.

The first annual Project Advisory and Monitoring Committee (PAMC) meeting was held at Kolkota. Members from the south zone coordinating agency of DST project paid a visit AMEF project area.

## 11.6 Dryland Tapioca – an Operational Research

A collaborative project “*Improving livelihoods of rainfed Tapioca farmers in Harur block of Dharmapuri district by addressing location specific problems*” between AME Foundation and TCRS (TNAU) is initiated with Tamil Nadu Agriculture University (TNAU). Dr. S. Venkatesan Professor and Head Yethapur and G. Ravi Kumar, Area Unit Coordinator, TCRS (TNAU), Dharmapuri Area Unit are the principal investigators. It is a one-year project (January - December 2006, extendable in year 2007)

AME Foundation, as a resource organization working with three farmer groups in the area, has fielded this project to address crucial issues like moisture stress, depleting soil fertility and inappropriate crop management practices. A collaborative technical and research support from the Tapioca and Castor Research station (TNAU) at Yethapur, a specialist research institution, would be providing the technical support in the project.

The collaborative project aims to evolve location specific low cost solutions to field problems through experimentation, in enhancing net returns of Dryland Tapioca in two selected villages. In the later stage the process will be scaled up to more farmer groups, with additional focus on multiplying successful experiences.

Tapioca sowing in direct village cluster was completed during the month. CO-2, a drought tolerant variety was introduced in two villages, with a set of appropriate crop management practices.

## 12. Visitors

Dr. Vasant Saberwal, Programme Coordinator, Ford Foundation, New Delhi visited AMEF Bangalore.

Prof. Radha Mohan, a practicing organic farmer from Orissa, visited Bangalore Office and shared his experiences on organic farming and the immense benefit he derived from participating in AMEF's trainings in the past.

Shri. Chalasani Dutt, an organic farmer from Andhra Pradesh, shared his views and experiences on eco farming with the staff of Bangalore Unit.

A group of 17 farmers and 3 staff from CERD, an NGO in Pondicherry visited Tiruchi Area Unit on a study tour to understand the available technological options for promotion of Sustainable Agriculture.

Mr. Dharmaraju from OXFAM visited the Bangalore Unit during July 2005.

Wilma Roem, Information specialist, ILEIA, The Netherlands visited Bellary unit. She stayed with the team for a week to understand the field-based activities in the region.

Dr. David Kahlar and his team from World Education visited the CU on 22nd October 2005.

Mr. Rene Van Veenhuizen, ETC Netherlands, Dr. Rob Simmons, and Ms. Gayathri Devi, IWMI visited Bangalore Office on 17-18th October, to discuss about the project on Peri-urban agriculture.

The working area of AMEF in Tiruchi is attracting interested people in SA. A group of 25 farmers and staff from Pondicherry Science Forum visited the Area Unit and its villages as part of their study tour.

A group of ten farmers and one staff from DHAN Foundation visited the Tiruchi Unit to know about AMEF's activities in promoting sustainable agricultural practices in the drylands.

Mr. James Mac Neal and Mr. PM Konda Reddy of World Education organization from Hyderabad visited the Area Unit and discussed about the ongoing activities of Area Unit Raichur.

RAWE students from Agricultural University visited the cluster villages in Raichur Area Unit. They observed the crop improvement activities under sorghum, different varietal performances, rain water management, bio mass generation on bunds and Dry Land Horticulture

Students from Bheemarayanagudi Agriculture College visited Raichur Unit to know about its activities. Students were advised to understand the various sustainable agricultural practices adopted by farmers of the nearby village.

The students of RAWE programme from College of Agriculture, Raichur visited Puchaladinni and Gadhar cluster villages. They interacted with farmers and were quite convinced about the SA practices in drylands.

## 13. STAFF POSITION

### 13.1. Staff position as on 31 March 2006

| Sl. No.              | Name                          | Present Designation              |
|----------------------|-------------------------------|----------------------------------|
| <b>CU, BANGALORE</b> |                               |                                  |
| 1                    | Arun Balamatti                | Executive Director               |
| 2                    | KVS Prasad                    | CPO-Doc.& Dissemination cum M.E. |
| 3                    | H.S.Manohar Pillai            | CPO-Training                     |
| 4                    | Rajendra Hegde                | CPO-Programme Co-ordination      |
| 5                    | TM Radha                      | Associate Editor-LEISA India     |
| 6                    | G Chandrashekar               | CPO-IFS/IPM                      |
| 7                    | J. Diraviam                   | APO-IFS/IPM                      |
| 8                    | Surekha K Sankanagoudar       | APO-Training                     |
| 9                    | Devi KA                       | Secretary - Programme            |
| 10                   | Asha R                        | Secretary - General              |
| 11                   | Adishesha Balaji NR           | Asst. Administrative Officer     |
| 12                   | Shobha Maiya                  | Secretary - Information & Doc.   |
| 13                   | Vijayalakshmi R               | Secretary - Accounts             |
| 14                   | Ramu K                        | Driver                           |
| 15                   | Gopalakrishnan R              | Driver                           |
| 16                   | Govindaraju BT                | Driver                           |
| 17                   | Lalitha N                     | Cook cum Cleaner                 |
| 18                   | Chikkanna                     | Attendant                        |
| 19                   | Kantha A                      | Cleaner cum Cook                 |
| 20                   | Ravi M                        | Attendant                        |
| <b>TIRUCHI</b>       |                               |                                  |
| 21                   | B Vijayalakshmi               | Area Unit Co-ordinator           |
| 22                   | M.Lawrence                    | APO-IFS/NRM                      |
| 23                   | B.Sreemathi                   | APO-GEC                          |
| 24                   | K. Gandhimathi                | APO-IFS/NRM                      |
| 25                   | M.R. Kalaivani                | APO-IFS/IPM                      |
| 26                   | G Hemalatha                   | Secretary cum Accountant         |
| 27                   | G Balaraman                   | Driver                           |
| 28                   | RL Pouline Selvi              | Attendant                        |
| <b>MADANAPALLE</b>   |                               |                                  |
| 29                   | Shobharani K                  | Acting Area Unit Co-ordinator    |
| 30                   | S.S.N. Malleswara Rao         | APO-IFS/NRM                      |
| 31                   | G.Swarupa Rani                | APO-IFS/IPM                      |
| 32                   | S Kavitha                     | Secretary cum Accountant         |
| 33                   | N Ravindranath                | Driver                           |
| 34                   | V Ranga Raju                  | Attendant                        |
| <b>RAICHUR</b>       |                               |                                  |
| 35                   | Sarvajna Salimath             | Area Unit Co-ordinator           |
| 36                   | B K Suresh                    | APO-IFS/IPM                      |
| 37                   | B.C.Kolhar                    | APO-IFS/NRM                      |
| 38                   | D.Manjunatha                  | APO-IFS/NRM                      |
| 39                   | <i>Shrishailagoud.N.Patil</i> | APO-IFS/NRM                      |
| 40                   | Sharanappa M Gulagi           | Attendant                        |
| 41                   | M Srividya                    | Secretary cum Accountant         |
| 42                   | Virupakshappa S Kelur         | Driver                           |
| <b>MAHABUBNAGAR</b>  |                               |                                  |
| 43                   | T.Krishna Prasad              | Acting Area Unit Co-ordinator    |
| 44                   | Ranganatha Babu               | APO-GEC                          |
| 45                   | <i>M.Nagana Gouda</i>         | APO-IFS/NRM                      |
| 46                   | Beaulah C                     | APO-GEC                          |
| 47                   | J.B.Raghavendra               | Secretary cum Accountant         |
| 48                   | N.Ramadasa Reddy              | Driver                           |
| 49                   | D.C. Kullayappa               | Attendant                        |

|    |                            |                               |
|----|----------------------------|-------------------------------|
|    | <b>DHARMAPURI</b>          |                               |
| 50 | G.Ravikumar                | Area Unit Co-ordinator        |
| 51 | J Krishnan                 | APO-IFS/NRM                   |
| 52 | I.Jaisankar                | APO-IFS/NRM                   |
| 53 | K.R. Chandra               | APO-IFS/NRM                   |
| 54 | G. Mathumalar              | APO-IFS/GEC                   |
| 55 | B.Kandasamy                | Driver                        |
| 56 | Jawahar Krishnaraj         | Attendant                     |
| 57 | Jayasundara Naidu          | Secretary cum Accountant      |
|    | <b>BELLARY</b>             |                               |
| 58 | Ravindranath Reddy         | Acting Area Unit Co-ordinator |
| 59 | Shyamrao S. Kulkarni       | APO-IFS/NRM                   |
| 60 | Shreesail N. Doni          | APO-IFS/IPM                   |
| 61 | Chandrashekar S Kallimani  | APO-IPM                       |
| 62 | Anil More                  | APO-IFS/NRM                   |
| 63 | Sangamesh M. Guttannawar   | APO-IFS/NRM                   |
| 64 | Prasanna V                 | Secretary cum Accountant      |
| 65 | Manjunath B                | Driver                        |
| 66 | Babu                       | Attendant                     |
|    | <b>BIJAPUR</b>             |                               |
| 67 | S S Madiwalar              | Area Unit Co-ordinator        |
| 68 | Rudragouda                 | APO-IFS/NRM                   |
| 69 | G.H.Yogesh                 | APO-IFS/NRM                   |
| 70 | <i>Sateesh V. Pattepur</i> | APO-IFS/NRM                   |
| 71 | <i>Megeri Karibasappa</i>  | APO-IFS/NRM                   |
| 72 | N. Bhavani                 | APO-IFS/GEC                   |
| 73 | Nandakishore AR            | Secretary-cum-Accountant      |
| 74 | B S Dyapur                 | Attendant                     |
| 75 | <i>Sadoba Maruti Kanse</i> | Driver                        |

## 14. BUDGET

### 14.1 Sources of funds

During the reporting period, AME Foundation received financial support for specific programmes as given below.

**FAO:** The AMEF-FAO partnership project on "Promoting Livelihood Improvements in Dryland Farming on the Deccan Plateau" commenced from 11 August 2004. However, the programme implementation started from January 2005. An amount of Rs. 416.97 lakhs was available for expenditure during the year.

**ILEIA:** AME Foundation and ILEIA Foundation, of the Netherlands, have entered into a four-year collaborative project to produce and distribute the Indian edition of the LEISA magazine on Low External Input and Sustainable Agriculture on a quarterly basis.

**KAWAD:** The DFID supported KAWAD project on "Improving Farming Systems in KAWAD Watersheds" in Bellary, Bijapur and Chitradurga districts of Karnataka was extended with a support of Rs. 12.53 lakhs and the project concluded on 30 June 2005.

**DST:** The project supported by DST (Bio farms for livelihood development of small and marginal dry land farmers) is being implemented in two villages of the Perambalur district, Tamil Nadu, with an outlay of Rs. 6.20 lakhs for the year.

**RSVY:** Department of Agriculture in Mahabubnagar supported a few training events for farmers under the NABARD sponsored Rashtriya Sam Vikas Yojana. An amount of Rs. 27,500 was provided for conducting training on promoting sustainable agriculture.

### 14.2 Budget Utilisation

The Foundation has completed fourth year of accounting. The budget utilisation under respective projects during the year is given below:

#### *Statement of budget, expenditure and funds received - 2005-06*

(Amount in INRs)

| Projects               | Budget             | Opening balance    | Funds received     | Total              | Expenditure        | % Expenditure | Ending Balance   |
|------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|------------------|
| KAWAD                  | 10,96,000          | 2,33,260           | 10,20,000          | 12,53,260          | 10,45,453          | 95.39         | 2,07,807         |
| ILEIA                  | 30,11,362          | 1,73,476           | 28,00,682          | 29,67,363          | 25,66,618          | 85.23         | 4,00,745         |
| LEISA India Consortium | 10,22,500          | 4,63,173           | 13,12,215          | 17,75,388          | 5,13,783           | 50.25         | 12,61,605        |
| FAO                    | 5,06,04,011        | 1,09,83,429        | 3,07,14,000        | 4,16,97,429        | 3,66,12,906        | 72.35         | 50,84,523        |
| DST                    | 4,42,000           | 3,20,397           | 3,00,000           | 6,20,397           | 3,62,950           | 82.12         | 2,57,447         |
| RSVY                   | 27,500             | ---                | 27,500             | 27,500             | 22,010             | 80.04         | 5,490            |
| AME own funds          |                    | 7,87,000           | 11,07,613          | 18,94,613          | 9,10,631           | ---           | 9,83,982         |
| <b>Total</b>           | <b>5,61,75,873</b> | <b>1,29,53,940</b> | <b>3,71,93,897</b> | <b>5,02,35,950</b> | <b>4,20,34,351</b> | <b>---</b>    | <b>82,01,599</b> |

- KAWAD: An amount of Rs. 10.45 lakhs (95%) was utilised for the activities during the extended period of the project. The balance amount Rs. 2.07 lakhs was refunded.
- ILEIA: ILEIA supported LEISA India Newsletter production and distribution and the LEISA India Consortium programme for intensifying documentation and dissemination together accounted for a budget of Rs. 40.33 lakhs of which Rs. 30.79 lakhs (76%) was utilised.
- FAO: The project got off to a start from 1 January 2005. The budget utilisation during the year 2005-06 was to the tune of Rs. 366.12 lakhs (72%).
- DST: An amount of Rs. 4.42 lakhs was sanctioned under the project and Rs. 3.63 lakhs (82%) was utilised towards the planned programmes of the project.
- RSVY: The budget received was Rs. 0.27 lakhs of which Rs. 0.22 lakhs (80%) was utilised.
- AMEF's own funds: AME Foundation accrued about Rs. 10.50 lakhs by way of overhead costs, donations etc. during the year and Rs. 9.10 lakhs was spent on various purposes mainly towards the building construction and to provide basic amenities to the office. The balance as on March 31, 2006 is around Rs. 9.84 lakhs.

Annexure 1  
**Results of Groundnut trials in Bellary**

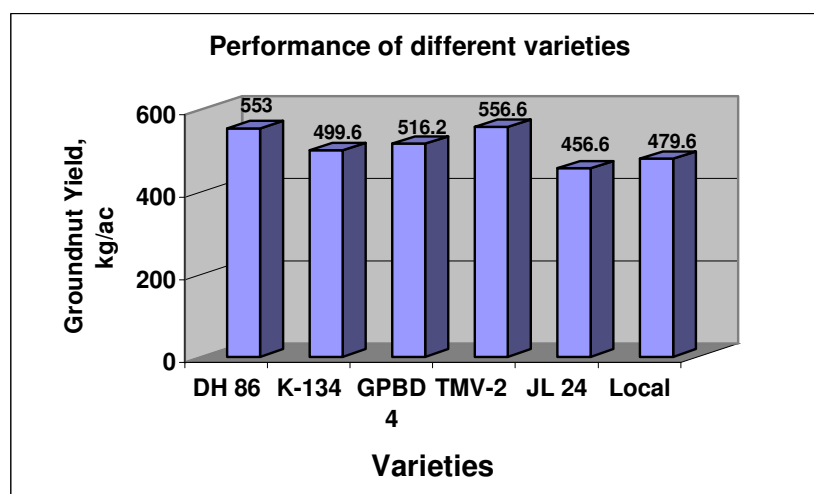
**Varietal performance**

| SNo         | Name              | Village      | Yield (kg/ac) |              |              |              |              |              |
|-------------|-------------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|
|             |                   |              | DH 86         | K-134        | GPBD 4       | TMV-2 (FS)   | JL 24        | Local        |
| 1           | Mallikarjunagouda | Rayapura     | 478           | 178          | 595          | 393          | 280          | 271          |
| 2           | Poojara Obayya    | Myasarahatti | 860           | 883          | 719          | 712          | 586          | 574          |
| 3           | Bhadrapa          | Hulikere     | 300           | 200          | 300          | 200          | 250          | 525          |
| 4           | Ningappa          | DB Halli     | 667           | 667          | 567          | 667          | 667          | 450          |
| 5           | Obaleshappa       | Marlahalli   | 460           | 570          | 400          | 811          | 500          | 578          |
| <b>Mean</b> |                   |              | <b>553</b>    | <b>499.6</b> | <b>516.2</b> | <b>556.6</b> | <b>456.6</b> | <b>479.6</b> |

Performance of TMV-2 (FS), DH-86 and GPBD-4 varieties of groundnut was better over other varieties. However, fodder production was lower in case of DH-86 compared to any other varieties. Farmers noticed lower incidence of pests and diseases in GPBD-4 compared to others. GPBD-4 (a very promising variety in Dharwad region)

performance in previous years was not encouraging in these areas but this season it performed well which may be attributed to good rains during the season. TMV-2 (FS) performance once again proved why majority of farmers grow this variety. Though local variety belongs to TMV-2, but its performance is not satisfactory may be due to genetic erosion

caused by continuous cultivation without changing the source of seed.



**Groundnut Seed multiplication**

Based on the performance of varieties in previous years, five farmers took seed multiplication of these varieties. The yield status of these varieties is as follows. Farmers continue to grow these varieties in the ensuing season.

| SI No. | Name of the farmer | Village      | Varieties | Area (acre) | Yield, kg/plot | Yield, kg/ac |
|--------|--------------------|--------------|-----------|-------------|----------------|--------------|
| 1      | Laxmana            | SD Kote      | VRI-2     | 1.5         | 500            | 333          |
|        |                    |              | TMV-2     | 2.0         | 800            | 400          |
| 2      | K.B. Papaih        | Yarrenahalli | TMV-2     | 0.5         | 150            | 300          |
| 3      | Thippeswamy        | Pujarahalli  | K-134     | 0.75        | 350            | 467          |
| 4      | Thammappa          | Hulikere     | DH-86     | 0.5         | 90             | 180          |
| 5      | Jayanna            | Maluru       | DH-86     | 0.75        | 240            | 320          |

Performance of strip cropping (groundnut +ragi) in Chinnahagari watershed

| S N | Farmer         | Village      | Area (acre) | Seed rate |      | Yield, kg/ac |      | Farmer's response                       |
|-----|----------------|--------------|-------------|-----------|------|--------------|------|---|
|     |                |              |             | G.nut     | Ragi | Gnut         | Ragi |   |
| 1   | Yarrayya       | Yarrenahalli | 1           | 32        | 2    | 440          | 30   | Pest & disease incidence is low         |
| 2   | Pujara Palayya | Myasarahatti | 3           | 36        | 1.5  | 470          | 35   | RHC attacked Ragi severely              |
| 3   | Laxmana        | SD Kote      | 1           | 28        | 3    | 500          | 75   | Ragi yielded low because of grasshopper |
| 4   | Pujara Obayya  | Myasarahatti | 0.75        | 20        | 2    | 240          | 200  | Pest & disease incidence is low         |
| 5   | Ajjayya        | Myasarahatti | 0.5         | 15        | 1    | 200          | -    | Ragi failed due to grasshopper          |

*Results are awaited from 3 villages in Chinnahagari and six from Upparahalla*

#### Salient results

- Usage of *Trichoderma* to control the Sclerotium rot and use of higher seed rate resulted in improved plant population by about 8 per cent
- Gypsum application increased the pod quality (11% increase in 100 pod weight)
- Better crop management practices resulted in increase of 13 per cent in pod yield and 23 per cent in haulm yield.

#### Ideas for gap filling in groundnut

- Estimation reveals that nearly 20-25 per cent of the yield is compromised in groundnut due to the poor plant density. To solve this problem we discussed the idea of ragi nursery raising (1 week before groundnut sowing) by the irrigated farmer in the group and it can be transplanted in gaps between the groundnut plants after 10 days. Farmers opine that as ragi is hardy, it establishes well if transplanted 20-30 day old seedlings. Ragi transplantation may also have positive effect on PBNB management.
- Cowpea, green gram, black gram, bajra, vegetables or any other seeds can be sown in gaps.

Annexure 2  
**Onion experiments in Bellary**

Onion is grown over large areas in Bellary and Chitradurga under irrigation. Bellary AU worked with onion farmers with an objective to influence their methods of sowing, pest management to lower the cost of production and to improve the yields. Insect pests are important biotic factors responsible for lower yield of onion in Bellary. Major among them are thrips and cut worms. Among diseases, purple blotch is very severe. Farmers use toxic insecticides (like Monocrotophos, Endosulfan, etc.) to control thrips that lead to high cost of production and environment contamination.

In one the FFS sessions, it was suggested to take up spray of chilli + garlic extract, biodigestive mixture, Neem based products and bajra as border crop. Observations were recorded on the population of thrips per plant on 5 randomly selected plants at 45 and 60 days after sowing (DAS).

**Onion experiments and results in Bellary**

| <b>Chilli Garlic Extract</b>   | <b>Bio-Digestive mixture</b>  |
|--|---|
| <ul style="list-style-type: none"> <li>• 1/2 kg crushed garlic</li> <li>• 1/2 kg crushed chilli</li> <li>• Mix them in one litre of water and filter</li> <li>• Add 100ml extract for 16 litre water while spraying</li> </ul> | <ul style="list-style-type: none"> <li>• 2 kg Neem leaves</li> <li>• 2 kg Pongamea leaves</li> <li>• 2 kg Lantana leaves</li> <li>• 2 kg Eucalyptus leaves</li> <li>• 2 kg Calotrophis leaves</li> <li>• 2 kg Pomegranate leaves</li> <li>• 2 kg Custard apple leaves</li> <li>• 2 kg Vitex leaves</li> <li>• 2 kg Horse gram flour</li> <li>• 2 l Cow milk</li> <li>• 2 l Cow urine</li> <li>• 2 kg Cow dung</li> </ul> <p>Keep it for 15 days to decompose and then take extract.</p> |

**Table: Thrips population /plant on onion with different treatments**

| Treatments                                     | No. of thrips/plant (DAS) |      | Average thrips /plant |
|--|---------------------------|------|-----------------------|
|  | 45                        | 60   |                       |
| No spray                                       | 30                        | 37.5 | 33.5                  |
| Chemical                                       | 27                        | 34   | 30                    |
| Neem oil 5%+ biodigestive mixture              | 21                        | 23   | 22                    |
| Chilli + garlic extract + biodigestive mixture | 13                        | 15   | 14                    |
| Chilli + garlic extract                        | 17                        | 21   | 18                    |

**Table: Disease incidence in different treatments in onion**

| Treatments                                     | Disease incidence (%) at 45 DAS |
|--|---------------------------------|
| No spray                                       | 35                              |
| Chemical                                       | 20                              |
| Biodigestive mixture                           | 30                              |
| Chilli + garlic extract + biodigestive mixture | 10                              |

**Table: Effect of bio-inoculants on growth, yield parameters and yield of Onion crop**

| Sl. No | Treatments        | Pl. pop/4m sq | Plant height (cm) | No. of leaves/plant | Bulb Size (cm) | 10 Bulbs weight (g) | Yield (t/acre) |
|--------|-------------------|---------------|-------------------|---------------------|----------------|---------------------|----------------|
| 1      | Tri.              | 599           | 44.3              | 8                   | 15.2           | 444.3               | 8.0            |
| 2      | Tri + Aza         | 552           | 43.3              | 8                   | 14.3           | 442.0               | 8.2            |
| 3      | Trichoderma + PSB | 558           | 46.6              | 8                   | 14.9           | 498.0               | 8.8            |
| 4      | Tri+Aza+PSB       | 557           | 42.0              | 8                   | 15.7           | 594.0               | 8.5            |
| 5      | FP                | 637           | 44.6              | 7                   | 12.4           | 350.3               | 8.2            |

*Tri – Trichoderma, Aza – Azatobactor, PSB – Phosphorous solubilising bacteria, FP – Farmers' practice*

### Annexure 3 Redgram in onion boosts the farm income

Area Unit Bellary worked on onion crop, in three villages, promoting LEISA technologies to enhance the crop productivity. Broadcasting method is normally followed for onion cultivation. Seeds are broadcasted first and then small bunds are made at 3-4' interval to make irrigation water to flow without hindrance. Generally, farmers leave the bund empty.

During the interaction meetings, farmers were of the opinion that any crop on the bunds causes shade leading to poor germination and establishment. They also opined that roots of intercrops damage the onion roots since it is shallow rooted crop. They were explained about the advantages crop mixtures and suitability of redgram in onion. Few farmers came forward to take up intercrops on these inter bunds. In Pujarahalli, 3 farmers (Mr. Umapathi, Mallikarjun and Basavaraj) took sowing of redgram on the bunds; harvested good yield of both onion and redgram. Redgram stalks, which are used as a fuel, added to the benefits.



In the initial stages, redgram grows slowly, without giving much shade to onion crop. When red gram starts growing profusely, onion will be at the harvesting stage. Therefore, issue of shade does not arise in onion + redgram system.

Farmers said that by adopting redgram as intercrop, expected onion yields were not affected and additional redgram grains and stalk could be obtained without spending extra on cultivation. After harvest of the crop, leaf litter added the organic matter to soil.

All of them did not apply any extra input (irrigation, fertilizer/pesticides etc.) and no extra

care was given to the combination.

Farmers are now realised that onion-redgram intercropping system can boost their income through additional redgram yield with onion yield unaffected. This has now been spread in the village and in surroundings and it is expected that many more farmers will be attracted to the advantages of the system to which they are not exposed earlier.

| Parameters                | Name of the farmers |             |           |
|---------------------------|---------------------|-------------|-----------|
|                           | Umapathi            | Mallikarjun | Basavaraj |
| Expt. Plot size (ac)      | 0.5                 | 0.25        | 1         |
| Onion yield (t/ac)        | 8.4                 | 7.9         | 10        |
| Redgram yield (q/ac)      | 2                   | 2           | 3         |
| Stalk yield (cartload/ac) | 3                   | 2           | 4         |
| Addl. income (Rs./ac)     | 3200                | 1600        | 4800      |

#### Annexure 4

### Stepping towards nutritional security – Experience of practicing Kitchen gardening

Mrs.J.Vijayalakshmi, a feisty young woman belonging Manborai village is a member of AMEF farmers' group in Tiruchi AU. She manages a family of six members (2 children - a boy & a girl of 5 & 2 years respectively and four adults). She is dedicated and competent in all her work with the responsibility of treasurer in that farmer's group. She also expresses keen interest in attending and executing the technologies and farm activities rendered by AMEF through training.

However, it was not a feel good factor that she never attempted to grow vegetables at the back yard of her house despite having adept knowledge of its nutritional value but kept purchasing from weekly shandies. This is mainly due to lack of guidance and motivation. Noticing this practice, which is quite common among villagers, AMEF took an initiative to give training on the importance and benefits of kitchen garden. This triggered her entrenched interest and remained as a guiding source, apart from giving a vegetable seed kit. The seed kit includes seeds of following vegetables like

| Sl. No. | Vegetables      | Variety      | Quantity |
|---------|-----------------|--------------|----------|
| 1.      | Tomato          | PKM1         | 5 g      |
| 2.      | Bhendi          | Arka Anamika | 5 g      |
| 3.      | Brinjal         | PKM 1        | 5 g      |
| 4.      | Snake gourd     | White short  | 2 g      |
| 5.      | Dolichos lablab | Dollis       | 5 g      |
| 6.      | Cluster bean    | Varsha       | 5 g      |

She utilized these vegetable seeds by sowing them in the available space at the back yard of her house. She claims that it was not at all a tough task for her to maintain this vegetable garden. The wastewater after domestic use was directed to the vegetable garden. Her children and other family members developed interest in maintaining plants and thus the effort was helpful in developing their knowledge and skill of cultivating vegetables. Her face was gleaming with joy when she spoke about the returns from the vegetable garden.

| Sl. No. | Vegetables      | Quantity  |
|---------|-----------------|-----------|
| 1.      | Tomato          | 17 kg     |
| 2.      | Brinjal         | 10 kg     |
| 3.      | Cluster bean    | 10 kg     |
| 4.      | Snake gourd     | 15 kg     |
| 5.      | Bhendi          | 2 to 3 kg |
| 6.      | Dolichos lablab | 5 kg      |

Earlier she used to spend nearly Rs.100 to Rs.150 per week for purchasing vegetables from shandies. But now the amount spent for the same is significantly reduced. She also says that she had collected the seeds of these vegetables to use them in future. Hence cultivation of vegetables for home consumption is on the front line & the knowledge of utility of vegetables is a good sign for nutritional security.

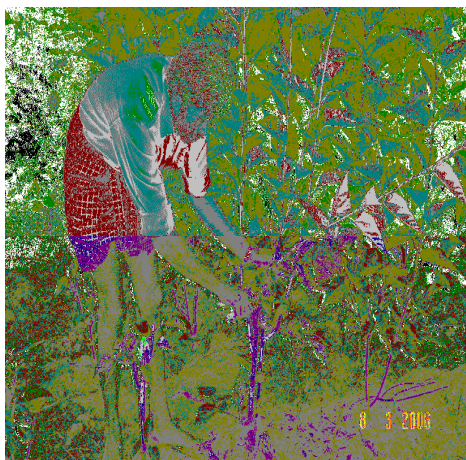
## Annexure 5

### LEISA initiatives towards Sustainable Sericulture

This is a Success story of Mr. G.T Veerabhadrappa who is working as Master farmer in the Hosur village.

Mr. Veerabhadrappa is born and brought up in poor family, could able to study till S.S.L.C, went in search of job for his livelihood. Initially worked on daily wages in a Petrol pump and in Bore well drilling unit. He had very bitter experience in both places as a labour, hence decided to work in his ancestral land of 7 acres (2 acres irrigated and 5 acres dry land).

On his return to the village, he came to know about the activities of AME Foundation and became member of the existing SAG. He decided to start Sericulture in one acre with AMEF guidance. He procured V-1 Lokikere village, another collaborating village of AMEF. He attended the training events conducted by the AMEF staff regularly, participated in study tours and understood the concept of sustainable sericulture.



From the beginning, he used more of organic fertilizers. He applied decomposed compost (3 tractor loads/annum/acre), Vermicompost (2q/acre/crop) and Jeevamrutha in his mulberry garden. Only once he has applied Urea (50 kg/acre) in the year.

Veerabhadrappa opened trenches in half of his mulberry field and filled with biomass like pongamia and silkworm rearing waste. This helped in conserving lot of moisture for longer period, thus saving water, and caused better growth of Mulberry plants.

He came to know about the benefits of Jeevamrutha, a biodigestive slurry, for the efficient growth of Mulberry during his interactions with model farmers during his exposure visit. With additional information from AMEF staff, he learnt to prepare the plant tonic. In February 2006, he applied Jeevamrutha twice to the crop of

mulberry at 10 days interval. In fact he tried to apply through drip initially, but did not succeed due to blockage in the laterals and therefore, applied to the root zone of the plants.

Veerabhadrappa uses Sicature to cut shoots for rearing to avoid mechanical damage to the plants and peeling up of bark, which happens if sickle is used. He also realised that this also helps for early and better sprouting. For the last crop, he used Ankush, a botanical bed disinfectant and found it better than Vijetha, a chemical bed disinfectant. Mr. Veerabhadrappa, his wife and mother does many of the Sericulture activities with out depending much on others. He spends about Rs. 2000/crop of silkworms compared to many farmers spending about Rs. 3000/crop.

In 2005-06, he has reared 7 batches of 125 DFLs / crop. He harvested an average yield of 70 kg /100 DFLs and income of Rs. 6000/ crop.

He has noticed better quality and yield of mulberry leaves in his field to that in other farmers' field and also improved cocoon yield. He has also realised the stability in yield of crop. The farmer is happy with his profit due to lowered cost of cultivation. He is more confident now as a farmer and proudly says that he could achieve this with the constant technical support from AMEF. He is a model sericulture farmer in the village, shares his experience with his fellow farmers in his group, in the village and neighbouring villages.

In future, Veerabhadrappa plans to use liquid fertilizers/plant tonics for Mulberry to enhance the leaf yield. Seven more farmers in the village are ready now to follow and adopt the practices of Veerabhadrappa in their fields.

Annexure 6  
**Report on Field days on groundnut at Hussainpur, Raichur**

Groundnut is one of the major crops in Raichur area. AMEF, Raichur AU took up varietal trials in its working area with different varieties viz., VRI-2, R-8808, GPBD-4, TPT -4 and local check. Farmers participation was encouraged in the process and w\they were suggested to follow LEISA methods for groundnut cultivation in the trial. The difference among the performance of varieties was significant and therefore Field day was organised with a main objective of providing farmers to look at the performance of varieties and for sharing advantages of LEISA practices followed.

| Date & Place         | No. of Participants |       |       | Facilitators/Resource Persons |
|----------------------|---------------------|-------|-------|-------------------------------|
|                      | Men                 | Women | Total |                               |
| 10/10/05, Hussainpur | 49                  | 6     | 55    | Dr. Salimath and Suresh B K   |

Farmers shared about LEISA practices adopted like seed treatment with bio-agents, advantages of bajra as boarder crop and castor as trap crop, use of botanicals to manage insect pests, performance of varieties, advantages of avoiding inter cultivation at peg penetration stage, etc.

**Participatory quality parameter observation during field day**

| Sl. No                                 | Parameters                                 | VRI -2     | R-8808                  | Local variety         |
|--|--|------------|-------------------------|-----------------------|
| 1.                                     | No of plants /1.5 sq m                     | 70         | 26                      | 52                    |
| 2.                                     | Height of the plant                        | 42.5 cm    | 49 cm                   | 55 cm                 |
| 3.                                     | No. of branches                            | 8          | 5-6                     | 5                     |
| 4.                                     | Total no. of pods / sq.m                   | 700        | 432                     | 466                   |
| 5.                                     | Av. No of pods/ plant                      | 10         | 16                      | 9                     |
| 6.                                     | Weight of pods                             | 800 g      | 430 g                   | 410 g                 |
| 7.                                     | Wet weight of fodder /1.5 sq m             | 2.5 kg     | 2.8 kg                  | 1.5 kg                |
| 8.                                     | Approximate yield (wet weight)             | 14.22 q/ac | 7.6 q /ac               | 5.0 q/ac              |
| 9.                                     | Approximate dry yield                      | 10.2 q/ac  | 5.6 q/ac                | 5.0 q/ac              |
| 10.                                    | Approximate dry fodder yield               | 4 q/ac     | 3.5 q/ac                | 3.75 q/ac             |
| <b>Special characters of varieties</b> |  |            |                         |                       |
| 11.                                    | Pod size                                   | More       | Less                    | Less                  |
| 12.                                    | Taste for consumption                      | Very tasty | Less tasty              | Taste is satisfactory |
| 13.                                    | Pod filling                                | Complete   | Not complete            | --                    |
| 14.                                    | Weight of the pod (visual and feel method) | More       | Medium                  | Less                  |
| 15.                                    | Resistance to root rot disease             | Less       | Susceptible to root rot |                       |

From the table it was evident that the Variety VRI –2 has performed very well. Incidence of pests and diseases was minimum in VRI-2 compared to R- 8808 and local variety and quality parameters like pod size, pod filling, weight of the pods, fodder yield and taste of VRI –2 is acceptable by the farmers.

**Outcomes of field day:** Farmers concluded that the VRI –2 is suitable to Raichur area and estimated that the variety would yield 10.2 q of pods/ per acre. Farmer, on whose field the trial was taken, agreed to provide the VRI –2 seeds to other farmers for multiplication in the coming season.

**Field study on *Microplitis*- An Important natural enemy of castor semi-looper  
(A session guide to train facilitators/farmers)**

**INTRODUCTION**

Among different oilseeds being grown in Andhra Pradesh, castor stands second after groundnut. It is being grown in an area of 3.93 lakh hectares with a production of 1.31 lakh tons annually. The productivity of castor is only 134 kg per acre. Castor is a main livelihood crop in Mahabubnagar District. The major production constraint is the semi-looper (*Achoaea janata*) apart from grey mold disease (Pathogen: *Botrytis ricini*). Farmers spray chemicals indiscriminately to control semi-looper without being aware of the natural enemies of the pest. Among different parasitoids of castor semi-looper, *Microplitis* sp. is the major. Farmers thought the pupa of the parasitoid attached to the posterior end of larvae as an egg sac of insect. To make the farmers aware of natural enemies in general and *Microplitis* in particular, field training is very crucial.

**OBJECTIVES**

By the end of the training session farmers/facilitators will be able to

1. Identify some of the natural enemies of castor semi-looper
2. Discuss the importance of natural enemies in pest management
3. Discuss about the life cycle of the *Microplitis*
4. Discuss about alternate management practice of the pest

**CONTENT**

- Major pests of castor
- Castor semi-looper management by the farmers
- Farmers awareness on the natural enemies of castor semi-looper
- Field observations on semi-looper incidence and parasitisation by *Microplitis*
- Life cycle of *Microplitis* wasp

**METHOD**

- **Time**
- Group discussion: 45 minutes
- Field observations: 1 hour
- Group discussion: 1.30 hour
- **Total time 3.15 hours**

**MATERIALS**

Polythene covers, sweep nets, lens, blade/cutter

**Group discussion**

- Major pests of castor
- Management practices of semi-looper
- Natural enemies known to farmers and their role/mode of action

**Field observations**

- Castor semi-looper incidence
- Parasitisation by *Microplitis* and collection of samples

**Group discussion**

- Life cycle of *Microplitis*
- Role of *Microplitis* in semi-looper management
- Conservation of *Microplitis* parasitoid

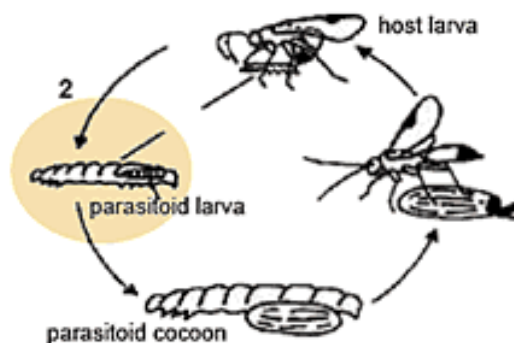
**PROCEDURE**

- In the large group discuss about the major pests of the castor
- Prioritize the pests based on the extent of damage caused by them (Semi-looper would emerge as a major pest)
- Discuss the management practices they are following for the castor semi-looper and how they are taking decisions (Normally they don't consider the natural enemies population )
- Interact with the farmers about the natural enemies of semi-looper if at all if they now
- Take the farmers to the prior identified field (where the *Microplitis* parasitisation is more, preferable to the unsprayed plots) to record the observations on semi-looper *Microplitis*

- Give clear instructions for recording the observations. The following format may be used. Observations on minimum of 10 plants need to be recorded. Ask the farmers to collect all those semi-looper larvae without attached *Microplitis* pupa

| Plant No | Total semi-looper /plant | Semi-looper larvae attached with <i>Microplitis</i> pupa | Semi-looper larvae without <i>Microplitis</i> pupa | Remarks |
|----------|--------------------------|--|--|---------|
|          |                          |  |  |         |
|          |                          |  |  |         |
|          |                          |  |  |         |

- Also collect the similar observations from a field where chemicals are used extensively to control semi-looper
- Collect the semi-looper larvae with and without *Microplitis* pupa from both the fields
- By using sweep net collect the flying wasps
- Discuss why/how this type of cocoon/pupa is formed? (By showing the *Microplitis* pupa attached to semi-looper larva)
- To know whether a caterpillar is parasitised, hold it across a fore finger with one thumb on the rear end of the caterpillar, and with the other thumb on the head. Gently stretch the caterpillar until the skin ruptures. A *Microplitis* larva developing within the caterpillar looks like a white maggot in the initial stage and brown in the later stage comes out. Many times *Microplitis* larva can be seen mostly in the 1/3<sup>rd</sup> portion of the posterior end of semi-looper. (*Microplitis* parasitize mostly 2<sup>nd</sup> instar larvae. 4<sup>th</sup> and 5<sup>th</sup> instar larvae defend themselves against parasitization. Normally affected larvae do not move fast and eat less).
- When once the farmers understood that there are parasitoids like *Microplitis* to affect semi-looper larvae, discuss about the life cycle of *Microplitis* wasp by using the pupa, different larval stages of the parasitoid.
- Lifecycle of the *Microplitis* wasp is the key to understanding its role in semi-looper management. From egg to adult, the *Microplitis* takes about 12 days. This is made up of seven days from egg laying to forming a pupa (pupation), and then five days for pupal development
- The total parasitisation by the *Microplitis* is sum of the semi-looper larvae with *Microplitis* pupa and larvae inside the semi-looper larvae.
- Compare the variation in parasitisation by *Microplitis* in unsprayed and sprayed plots
- Ask the farmers what happens if they spray chemicals/neem oil/Bt to *Microplitis*? (Broad-spectrum insecticides will kill *Microplitis*. Even a biological insecticide, like Bt, can kill *Microplitis* larvae if the host caterpillar is killed before the parasitoid can complete its development. The cocoon (pupal stage) of *Microplitis* is less susceptible to insecticides than the adult and larval stages. It is not practical to try and time sprays to preserve *Microplitis* in crops where there is a range of life-stages present)
- Discuss the fecundity (egg laying potential) of wasp. (Single female wasp can parasitise approximately 70 semi-looper caterpillars in her lifetime. The egg laying capacity of the wasp is directly proportionate with the availability of nectar. So it is better to have staggered flowering plants along with castor to increase the efficiency of *Microplitis*)
- Discuss how this study would help the farmers in taking semi-looper management decisions



Life cycle of *Microplitis* demolitor.

### Discussion Questions

1. What is the major natural we observed?
2. How *Microplitis* affects the semi-looper larvae?
3. How chemicals are going to affect the *Microplitis* population?
4. How parasitisation of wasp varies?
5. Are you going to conduct a field survey on the *Microplitis* incidence in your field before taking any decision on semi-looper management?

**Follow up**

- Keep observing the same field at regular intervals for variation in the parasitisation due to weather change / management practices?

**Future course of action**

- Possibilities of mass multiplication of *Microplitis* wasp?
- Conserving the *Microplitis* during off season

**Short study - Effect of different plant protection measures on semi-looper population and parasitization by *Microplitis* sp**

Field observations were done on the density of pest and natural enemies and observed up to 95.65 per cent parasitisation by *Microplitis*. Adult wasps of *Microplitis* were also observed in the field. All most all 2 and 3<sup>rd</sup> instar larvae were parasitized. Only 4 and 5<sup>th</sup> instar larvae that were about 5 per cent in the field were unaffected.

Farmers felt that there was no need for intervention. Therefore the short studies on the of different plant protection measures on semi-looper population and parasitisation by *Microplitis* Sp. were conducted to make farmers know more about the natural control of the pest

The observations recorded in different fields with varied management practices are presented below.

The field observations taken at different places in different occasions indicated very high parasitisation (>75%) in plots that were not sprayed. On the other hand, fields sprayed with Bt (before 2 days) recorded more than 60 per cent parasitisation indicating the safety of Bt for the natural enemy. The chemical sprayed plots severely affected the natural enemy population, as there were no parasitoids and also take much longer time for the beneficial insects to build up as seen in the field which was sprayed 30 days back and population of *Microplitis* was observed.

Immediately after this field training, a non group member Ramulu, who attended the training on his way to field for spraying pesticide (Cypermethrin and carbendazim) against castor semi-looper and grey mold decided not to spray. He requested the assistance of other farmers for observations and decision-making. Accordingly, a farmer, Mr.Balakrishnaiah visited the Ramulu's field for observations.

**Date 09.09.05. Place: Mettupalli , Event: Training to SDDPA-ENP staff**

| Particulars  | Farmers' Name |             |
|--|---------------|-------------|
|  | G.Balaiah     | R.Ramulu    |
| Total Semi-looper (larvae/10 plants)                                 | 41            | 43          |
| Semi-looper larvae attached with <i>Microplitis</i> pupa / 10 plants | 30            | 28          |
| No of parasitised larvae without pupa/ 10 plants                     | 9             | 12          |
| Per cent parasitisation  | 95.23         | 93.75       |
| Remarks  | Not sprayed   | Not sprayed |
|  | Satyanarayana |             |
| Total Semi-looper (larvae/10 plants)                                 | 37            |             |
| Semi-looper larvae attached with <i>Microplitis</i> pupa / 10 plants | 26            |             |
| No of parasitised larvae without pupa/ 10 plants                     | 5             |             |
| Per cent parasitisation  | 83.78         |             |
| Remarks  | Not sprayed   |             |

**Date 27.09.05, Place: Thadiparthi, Event: FFS**

|  |               |
|--|---------------|
|  | Satyanarayana |
| Total Semi-looper (larvae/10 plants)                                 | 18            |
| Semi-looper larvae attached with <i>Microplitis</i> pupa / 10 plants | 10            |
| No of parasitised larvae without pupa/ 10 plants                     | 4             |
| Per cent parasitisation  | 77.77         |
| Remarks  | Not sprayed   |

**Date 28.09.05, Place: Lingampalli, Event: Field observations**

|  | Rajendra Reddy                  |            |                  |
|--|---------------------------------|------------|------------------|
| Total Semi-looper (larvae/10 plants)                                 | 0                               | 6          | 9                |
| Semi-looper larvae attached with <i>Microplitis</i> pupa / 10 plants | 0                               | 3          | 3                |
| No of parasitised larvae without pupa/ 10 plants                     | 0                               | 1          | 3                |
| Per cent parasitisation  | -                               | 79.89      | 66.66            |
| Remarks  | 2sprays- Acephate & Quinolophos | 1 Bt spray | 1 Acephate spray |

## Annexure 8

### Curricula of ongoing Farmer Field School

#### a) Curriculum of Tomato FFS in Dharmapuri

|   |  |  |  |  |
|---|--|--|--|--|
| <b>Session-1</b><br>Pre BBE<br>Nursery raising.   | <b>Session- 2</b><br>-FFS field layout (layout or experiments and sowing of border crop)<br>- Small group formation<br>-GD: bursting the balloon.<br>-SS: Enriched FYM | <b>Session- 3</b><br>-AES concept<br>-GD: food sharing.  | <b>Session- 4</b><br>-Transplanting  | <b>Session- 5</b><br>-AESA (intro & exercise)<br>-GD: water brigade  |
| <b>Session- 6</b><br>-AESA<br>-SS: WHC & composting<br>-IZ establishment.<br>GD: Drawing without lifting pen. | <b>Session- 7</b><br>-AESA<br>-SS: Nutrient uptake.<br>-GD: longest line   | <b>Session- 8</b><br>-AESA<br>-LTE observation<br>-GD: Pen in bottle   | <b>Session- 9</b><br>-AESA<br>-SS: Whitefly bio ecology<br>-GD: Tower building   | <b>Session- 10</b><br>-AESA<br>-SS: Tricho cards & traps.<br>-GD: 9 dots game  |
| <b>Session- 11</b><br>-AESA<br>-SS: Plant compensation study (flower/fruit)<br>-GD: Broken squares            | <b>Session- 12</b><br>-AESA<br>-SS: Adverse effect of pesticide on NE.<br>-GD: Inheritance   | <b>Session- 13</b><br>-AESA<br>-SS: Evaluation of botanicals against Helicoverpa.<br>-GD: Disentangle<br>-LTE observation. | <b>Session- 14</b><br>-AESA<br>-SS: identification different diseases.<br>-GD: Save the hanging egg                    | <b>Session- 15</b><br>-AESA<br>-SS: Evaluation of Botanicals & Bordeaux mixture against fungal diseases.<br>-GD: Communication distortion. |
| <b>Session-16</b><br>-AESA<br>-LTE observation<br>-SS: bioecology of Helicoverpa.                             | <b>Session- 17</b><br>-AESA<br>-Special topic on Tomato Processing.  | <b>Session- 18</b><br>-AESA<br>-Conclusion on LTE, SS, IZ.<br>-Post BBE  | <b>Session- 19</b><br>-Consolidation<br>- Action plan & follow up.<br>-BBE result sharing.<br>-Planning for field day. | <b>Session- 20</b><br><b>FIELD DAY</b>   |

#### b) Curriculum of Tomato FFS in Bijapur

|  |   |  |  |
|--|---|--|--|
| <b>Week 1</b><br>BBE – Pre FFS<br>Land preparation<br>Seed germination test                            | <b>Week 2</b><br>Nursery preparation & sowing<br>FYM enrichment<br>Seed treatment<br>Soil solarisation  | <b>Week 3</b><br>Sub group formation & leader selection<br>AES concept<br>Group dynamics   | <b>Week 4</b><br>AESA in nursery<br>Weeding, leaf minor, jassids<br>Sticky traps, trap & border crops selection<br>Finalization of LTE<br>Group dynamics |
| <b>Week 5</b><br>Studies on WHC<br>Selection of healthy seedling for transplanting<br>FFS field layout | <b>Week 6</b><br>Seedling treatment<br>Transplanting<br>Weed seed experiment                            | <b>Week 7</b><br>AESA<br>Nutrient uptake expt.<br>Group strengthening activities   | <b>Week 8</b><br>AESA<br>Insect zoo/spider ecosystem analysis<br>Group dynamics  |
| <b>Week 9</b><br>AESA<br>Leaf blight<br>Staking<br>NSKE preparation                                    | <b>Week 10</b><br>AESA<br>Botanical preparation<br>Study on traps<br><i>Trichogramma</i> multiplication | <b>Week 11</b><br>AESA<br>Study on <i>Heliothis</i> and <i>Spodoptera</i><br>NPV & <i>Nomuraea</i><br>Bird perches<br>Group dynamics | <b>Week 12</b><br>AESA<br>Preparation of Bordeaux mixture<br>Short study on crop physiology<br>LTE observations  |
| <b>Week 13</b><br>AESA<br>Special class on insects<br>Leaf blight disease triangle                     | <b>Week 14</b><br>AESA<br>Storage and disposal<br>Spray dye exercise                                    | <b>Week 15</b><br>AESA<br>Blossom end rot disease triangle<br>Group dynamics   | <b>Week 16</b><br>AESA<br>LTE observation<br>Insect zoo follow up<br>Botanicals prep. follow up  |
| <b>Week 17</b><br>AESA<br>Harvesting, processing, grading<br>Identification of lead farmers            | <b>Week 18</b><br>AESA<br>BBE - Post FFS  | <b>Week 19</b><br>Field day  | <b>Week 20</b><br>Discussion with farmers to take the learning forward   |

### c) Curriculum of Tomato FFS in Mahabubnagar

|  |  |  |   |
|--|--|--|---|
| <b>Week 1</b><br>Pre BBE<br>FYM enrichment<br>Seed germination test<br>Panchagavya preparation | <b>Week 2</b><br>Seed germination conclusion<br>Nursery techniques and<br>Establishment<br>Seed treatment and sowing<br>FFS Field layout | <b>Week 3</b><br>AES concept<br>Water holding capacity<br>Living soil concept                              | <b>Week 4</b><br>Transplanting<br>GD: Pen in bottle<br>SS on root dipping with Asafoetida<br>Importance of soil testing |
| <b>Week 5</b><br>AESA<br>GD: Longest line<br>Spray dye exercise<br>Introduction to IZ          | <b>Week 6</b><br>AESA<br>IZ establishment<br>Nutrient uptake<br>GD: Tower building   | <b>Week 7</b><br>AESA<br>GD: Nine dot game<br>Sp topic: Botanical<br>preparation<br>LTE observation        | <b>Week 8</b><br>AESA<br>GD: Broken squares<br>Sp topic:<br>Bio-ecology of whitefly,<br>Viral disease management        |
| <b>Week 9</b><br>AESA<br>GD: Inheritance<br>LTE observations<br>SS: Traps establishment        | <b>Week 10</b><br>AESA<br>SS: NPV and<br>Adv. effect of pesticides on NE<br>Sp Top: Botanicals preparation<br>GD: Disentangle            | <b>Week 11</b><br>AESA<br>Trichogramma release<br>Powdery mildew<br>management<br>GD: save the hanging egg | <b>Week 12</b><br>AESA<br>Bio-ecology of Helicoverpa GD<br>Preparation of botanicals                                    |
| <b>Week 13</b><br>AESA<br>GD: Communication distortion<br>LTE observation and<br>conclusion    | <b>Week 14</b><br>AESA<br>AESA<br>Post BBE<br>Result sharing: SS & IZ  | <b>Week 15</b><br>Field day  |   |

### d) Curriculum of Brinjal FFS in Tiruchi

|  |   |  |   |   |
|--|---|--|---|---|
| <b>Week -1</b><br>BBE<br>Signs & symptoms<br>Group formation<br>(Animal sound)<br>Germination test | <b>Week-2</b><br>Nursery techniques<br>& Establishment<br>Preparation of<br>Enriched FYM  | <b>Week-3</b><br>Living soil<br>Nursery observation<br>Finalizing of LTE and<br>designing learning<br>field  | <b>Week-4</b><br>AESA in Nursery Short<br>study: WHC<br>Importance of trap /inter<br>crops<br>GD (Water brigade)  | <b>Week-5</b><br>AES concept<br>Field Layout  |
| <b>Week-6</b><br>Transplanting   | <b>Week-7</b><br>AESA<br>Group dynamic<br>(Longest line)<br>Conclusion of living<br>soil.<br>Collection of insect &<br>establishment<br>Est. of Traps | <b>Week-8</b><br>AESA<br>Botanicals prepn &<br>evaluation (NSKE,<br>Chilli & garlic)<br>Adverse effect of<br>pesticides on N.E.<br>GD (Nine dot game)          | <b>Week-9</b><br>AESA<br><br>LTE observation<br><br>GD (pen in bottle)  | <b>Week-10</b><br>AESA<br><br>Short studies<br>establishment:<br>1. Defoliation<br>2. Nipping: shoot<br>removal.<br>GD (Tower building) |
| <b>Week-11</b><br>AESA<br>Nutrient uptake<br>Bio-ecology of fruit<br>borer<br>GD:                  | <b>Week-12</b><br>AESA<br>Special topic:<br>Identification of<br>Diseases<br>GD: Inheritance  | <b>Week-13</b><br>AESA<br>Study of crop<br>physiology (Flower,<br>Fruit)<br>Evaluation of<br>Tricentanal vs<br>Euphorbia weed<br>extract<br>GD: Broken squares | <b>Week-14</b><br>AESA<br>LTE observation<br>GD: Disentangle  | <b>Week-15</b><br>AESA<br>Establishment of<br>Trichocards   |
| <b>Week-16</b><br>AESA<br>Study and evaluation<br>of entomo-pathogens<br>GD: Message<br>distortion | <b>Week-17</b><br>AESA<br>Observation &<br>Discussion on plant<br>physiological studies<br>GD   | <b>Week-18</b><br>AESA<br>LTE observation &<br>conclusion  | <b>Week-19</b><br>Post BBE<br>Consolidation FFS learning<br>FFS follow up Action plan.<br>Planning for field day. | <b>Week-20</b><br>Field day   |

Annexure 9  
**GENDER Action plan for Dharmapuri UNIT – 2006**

| <b>ASPECTS</b>   | <b>PROBLEMS</b>  | <b>STRATEGIES</b>  | <b>ACTIVITIES</b>  | <b>INDICATORS</b>   |
|--|--|--|--|---|
| <b>Participation</b>   | <ol style="list-style-type: none"> <li>1. Socio cultural hegemony</li> <li>2. Mobility</li> <li>3. Multiple roles</li> <li>4. Trainings</li> </ol>   | <ul style="list-style-type: none"> <li>• Sensitize men and women on gender issues</li> <li>• Creating opportunities for equal participation</li> <li>• Flexibility in implementing activities</li> <li>• Working with SHGs</li> </ul>  | <ul style="list-style-type: none"> <li>• Family approach in trainings and meetings</li> <li>• Create interest, make them interact</li> <li>• Creating awareness about the importance</li> <li>• Time, place adjustment</li> <li>• Video shows</li> </ul> | <ul style="list-style-type: none"> <li>• Refer attendance</li> <li>• Observe active participation</li> <li>• Group assessment</li> </ul>  |
| <b>Access and Control to Resources Like knowledge, finance and information</b> | <ol style="list-style-type: none"> <li>1. Less acceptance as farmers</li> <li>2. Rights to assets</li> </ol>   | <ul style="list-style-type: none"> <li>• Providing Technical and financial resources</li> <li>• Creating opportunities for joint decision making in resource management</li> <li>• Working with women SHGs</li> </ul>  | <ul style="list-style-type: none"> <li>• Time and need based trainings (technical assistance)</li> <li>• Pamphlets in Tamil</li> <li>• Revolving fund</li> <li>• Creating awareness about women development programmes related to agriculture</li> </ul> | <ul style="list-style-type: none"> <li>• Monitoring (assure RF used for farming activities)</li> </ul>                                    |
| <b>Drudgery in farm operations</b>   | <ol style="list-style-type: none"> <li>1. Women are the most affected</li> <li>2. Returns are not productive</li> <li>3. Adds to physical stress-implications on reproductive roles</li> </ol> | <ul style="list-style-type: none"> <li>• Introduce small farm implements that reduce drudgery</li> <li>• Technologies</li> <li>• Promoting farm based income generating opportunities (should not increase the work load; should be integrated with farming system)</li> </ul> | <ul style="list-style-type: none"> <li>• Work load analysis</li> <li>• Gender division of labour in important crops</li> <li>• Nursery raising</li> <li>• Bio fertilizers, bio pesticides</li> </ul>   | <ul style="list-style-type: none"> <li>• Opinion over technology</li> <li>• Analyze whether it reduces the working hours women</li> </ul> |

***Other activities to be done:***

- Case studies on impacts of technologies on workload and returns
- Involving men in FFS
- Gender matrix for workload analysis, for all crops
- Influence of gender factors in acceptance/ adaptation of FFS promoted technologies

Annexure 10  
**Report on Study Tour for staff of Eco-Network Partners**

AMEF, Bijapur is working with three NGOs (BIRDS, ISEER and POWER) for replication and multiplication of eco-farming initiatives in "Improving the Livelihoods" of farmers in three taluks of Bijapur district Viz. Indi, Bijapur and Basavana Bagewadi since 2005. These Eco-network Partners are supposed to scale up eco-farming initiatives. Hence, building the capacities of them is immensely essential through training and exposure visits to improve their competence in promoting sustainable agriculture practices. As a part of capacity building, a study tour was organized to expose them to models of *in-situ* soil and water conservation, Sustainable agriculture involving live hedge and other improved dry land technologies, Agro-Forestry, Biomass production, Dry Land Horticulture, Natural Resource Management (NRM) in dry land farming. All the field staffs of three ENPs who are presently working in promoting sustainable agriculture on this six-day study tour between 16<sup>th</sup> and 21<sup>st</sup> January 2006 to various places in Karnataka and Andhra Pradesh.

**16.01.06**

**1. Krishi Vignayan Kendra (KVK) Hulakoti**

**Learning objective:**

To know the various land based activities (dry land horticulture and *in-situ* soil and water conservation) in dryland for achieving sustainability.

**Activities seen / Discussion:**

Mr K T Patil, Horticulturist of the KVK, explained in brief about the practice of Agro-horticulture – mango, tamarind, custard apple, sapota, guava and mixed planting of curry leaf, drumstick, amla with fruit crops. In addition, he discussed about the planting and management aspects like opening pits (3x3x3ft); filling it with silt, FYM and green leaves; maintaining mixtures of tree species adoptable to the area; varieties for dryland in different fruit crops.

Ms. Hema Morab, Farm Superintendent showed different field activities like Vermicomposting, Bund plantation of Tamarind, Jatropa, Simaroba, Sesbania, Neem and Glyricidia. Sorghum production technologies like *in situ* rainwater conservation through compartment bunding, growing short duration green gram and incorporating it after harvest of pods at least 15 days before sowing of sorghum. Dry land horticulture with mixed planting of sapota, wood apple, custard apple and guava was another important observation. For black soils, a saucer shaped farm pond was interesting to observe.

Later participants observed the community vermicomposting by Rohini Watershed Users SHG under the KVK with the assistance of Karnataka Vikas Bank at Kurthkoti. Mr GG Udugoudar has established vermicomposting unit on large scale, wherein 30 pits were established under the big Banyan tree and he is using all kinds of wastes including sunflower stalks.

At the training center, Mr Narayan Bhandi discussed on soil and water conservation activities like trench cum bunding, fall ploughing, compartment bunding, dead furrows, contour cultivation, strip cropping / cropping systems and farm ponds.

**II. Visit to Mr Basvanagouda Patil at Papanashi village**

**Learning objective:**

To know importance of diversity in cropping in maintaining sustainability farm production

**Activities seen / Discussion:**

In the evening, the team visited the field of Mr Basvanagouda Patil at Papanashi village, 8 km from Gadag. He is practicing mixed cropping of Chrysanthemim+chilli+onion and use of botanicals. The farmer is cultivating crops in mixture at least two and maintains diversity in the farm, which enabled him in getting sustainable production from the system as a whole.

**17.01.06**

**BAIF Institute for Rural Development, Karnataka (BIRD-K), Surashettikoppa, Kalagatagi Taluk**

**Learning objective:**

To know production of Biomass in the field, Agro forestry, Dry land horticulture, Sericulture and natural resource management and Integrated Farming Systems (IFS) for small farmers.

**Activities seen / Discussion:**

The BAIF started its work through "Transfer of Technologies for Sustainable Development" project in 1996 in 18 villages of the Taluk. One among them is surshettikoppa. Initially Mr Basavanagouda Ningnanagoudar, a small farmer shared his experiences with the project, which improved the livelihood

of his family compared to before project. Later in the field visits to Nagappa M Adargunchi and Manjunath Haklad in other village Kapmlikoppa, participants observed plantings of variety of multipurpose tree species like *Cassia*, Neem, Teak, *Eucalyptus*, Subabul, *Pongamia*, *Erithrina*, *Dalbergia*, *Silver Oak* etc in the trenches along the field bunds. In the farm, farmers integrated different tree species yielding fodder, fuel, timber & biomass; fruit crops like Mango, Guava, Sapota and Tamarind; fodder grasses like *Stylosanthes hamata*, *S.Scabra*, Napier etc on the inter bunds and on crescent bunds around fruit trees; vermicomposting using biomass; livestock animals like goat, cow, buffaloes etc and biogas. The farms had various components of IFS like agro-forestry, horticulture along with field crops including cereals and pulses. The main soil and water conservation activities adopted here are field border trenches cum bunding, Ring Trench cum Biomass (RTB) for fruit trees, mulching around the trees, pot-drip irrigation and farm ponds. Participants discussed in detail about each component in the farm.

In the afternoon, Participants visited the fields of Mahadev Bammigatti and Fakirappa M Madiwalar, where they observed the development of hilly land, previously uncultivated, by adopting soil and water conservation activities like trench cum bunding, forest tree planting in the trenches and fruit trees in the field along with he is taking sorghum in the same field. In the other field, Mulberry has been raised successfully in dry sloppy lands by following trenches at frequent intervals and filling it with organic wastes. Later farmers showed the tree plantation in common lands through hasiru habba by involving the whole community.

**18.01.06**

#### ***I. Agriculture Man Ecology Foundation, Bangalore***

**Learning objective:** To Discuss with Chairman on sustainable agriculture

#### **Activities seen / Discussion:**

Definition and need of sustainable agriculture in the present day agriculture was discussed. Also the objectives of the study tour were discussed.

#### ***II. Integrated farming Systems Model developed under Operational Research Project, GKVK, Bangalore***

**Learning objective:** To understand different components integrated in one hectare IFS model

#### **Activities seen / Discussion:**

Dr. Shivaram, explained the different components of in one hectare which was developed for small and marginal farmers considering it as small watershed. They divided the field into 5 equal parts with trench cum bunding, the excess rainwater was allowed to move along the trenches near bunds and got collected in farm pond (12x12x3 m<sup>3</sup>). Biomass and fodder yielding plants were planted on the field bunds. In the first plot mixed horticulture trees (custard apple, sapota, mango, guava etc.) were planted, 2<sup>nd</sup> to 4<sup>th</sup> plots were used for growing of food crops like Ragi, Pulses, groundnut and mulberry whereas, in 5<sup>th</sup> plot kitchen gardening, farm pond, composting pits, vermicompost pits and farmhouse were established. In the farm pond, fish-poultry-rabbit rearing were integrated. Vegetables on the farmhouse are being cultivated and for fuel, one biogas plant was established.

After the field visit, he discussed in brief on the natural resource management with more concentration on soil and water conservation activities. The main highlights of the discussion are *In situ* soil and water conservation activities (like fall ploughing, compartment bunding, mulching), farm ponds, nala bunds, check dams, planting on common lands.

**19.01.06**

#### ***I. Agriculture Man Ecology Foundation, Madanapalle, Andhra Pradesh***

**Learning objective:** To know on-farm biomass production and its utilisation; SRI paddy, raising nursery and other SA activities

#### **Activities seen / Discussion:**

The staff of AMEF Madanapalle, Mr Maheshwar Reddy and Swarupa Rani, facilitated the visit. Initially, participants had discussion with Srinivasa and Mahalaxmi, FAG members in Thuguvarapalle. Later participants were taken to the fields. The farmers were happy this year as they received sufficient rains after seven years of continuous drought.

Mr Vemareddy shared his experiences on SRI paddy. In SRI method, farmers transplant 8-12 day seedling singly at each spot by using two-way marker (25 cm x 25 cm, 16 plants m<sup>-2</sup>) in the field, which saves time of nursery establishment time and cost, seeds (58 kg/ac), labour for planting (20/ac). Later the weed biomass will be incorporated in the soil using rotary weeder 15 DAT and at 10 days intervals subsequently, which makes the root to grow deep. The SRI paddy cultivation has the merits of savings in water and plant energy diverted for getting air under submerged condition.

In the other field visit, Mr Bhomireddy, Participants observed and discussed the nursery rising by the group members. In 25,000 Cassia nursery, the group members worked in filling the bag (2:1:1 soil: FYM: sand) and sown the seeds. The farmer, who is going to be paid @Rs 0.40 per live seedling by the group members, is managing the nursery for six months (including watering).

Then participants visited Mr Ramachandra Reddy's field and observed mixed fodder production unit. In discussion, farmer shared that the main idea for mixed planting was production of more & nutritious fodder through out the year. He is growing *Napier* in between *Sesbania* in 5ft rows and *Glyricidia* on the bunds.

Mr Janardhana Reddy, in his field explained about the groundnut seed multiplication for the group members. He planted VRI-2 variety, after harvest he sells the seeds to group members at the rate at which he purchased.

Later participants observed the method of composting in Mr Ramachandra Reddy's field. During discussion farmer shared that he is doing it from last year by opening a pit of size 5 ft diameter with 4 ft depth, he removes the compost at every 3 months and uses all the raw materials in the field. Participants learnt about the method of composting.

In a field visit to Mr Chinnavenkataramana Reddy's field, participants observed dry land horticulture. Farmer is cultivating mango intercropped with bitter gourd, he has used *Azolla* as mulching material around mango plants.

Participants also observed the *Azolla* cultivation in the natural tank, which the community is using as manure. The farmer Mr C Janardhana Reddy later showed the protected *Azolla* cultivation under the net and using it as supplement to animal fodder. He is cultivating *Azolla* in 4 ft x 8 ft pond with poly sheet below. The water (mixed with some amount of dung and soil, some farmers are also using mineral mixture in the pond) of 10 cm depth is maintained. After 15 days farmers are continuously taking out *Azolla* and by washing in fresh water feeding it to the animals.

Finally, Ms Shanthamma showed the cement pit of vermicomposting. She is using all kinds of dried wastes including custard apple, lantana, weeds etc and created live shading by growing creepers around the pit and allowing on the thatch above the pit.

## **II. ENP Chithanya, ENP, AME Foundation, Madanapalle,**

**Learning objective:** To know on-farm biomass production and its utilisation and other SA activities

### **Activities seen / Discussion:**

After the introduction and brief discussion on the visit and NGO-AMEF activities with the Head of Chaitanya, Mr Sharankumar, participants discussed with Ms Adilaxamma and Ramalaxamma (Valasaguttapalli) about the tank management by the group. They have taken a loan of Rs 60,000, repaired the tank, and now rearing 5000 fishes in the tank.

Later participants observed the Biomass plantation in other field. Here the farmers planted 200-250 cassia plants on the field bunds and managing by cutting plants to the height of 2 to 5 ft. They use the leaves for composting and vermicomposting and sticks as fuel. The bund plantation did not cause any reduction in yield of field crops.

In the other field visit, one farmer was irrigating the dryland mango plants using drum kit method of drip irrigation by which he is saving water, labour and covering more area. He is using the biomass from the bund planted cassia plants as mulching material in addition to composting.

### **20.01.06**

## **MYRADA working area, Lakkenahalli, Kamasamudra, Bangarpet, Kolar**

**Learning objective:** To know on-farm biomass production and its utilisation and other SA activities

### **Activities seen / Discussion:**

After the brief introduction about of participants and MYRADA, Mr. Siddrtha Karade took the participants to field visit. In the field visit, Mr Karimsab farmer showed the watershed activities like gully plugs, boulder bunds, trench cum bunding, sunken pits, diversion drains and check dam, which were implemented in watershed programme.

In Balamandi village, participants observed the biomass (Cassia, Agave) and fodder (*Stylosanthes hamata*, *S.scabra*) production on contour bunds where the farmer, Mr Muniyappa, shared his experiences regarding biomass plantation and benefits he got in six acres. He cuts the trees twice in year and uses the leaves for composting but he sells the sticks in market as fuel wood.

Later on the way participants saw the tomato nursery, discussed the nursery techniques with proprietor, Mr Venkatesh who shared the advantages and process of raising nursery in the shade net.

Mr. Appi, the farmer from D Kothinglu showed the mango plantation in 35 acres of dry land by the group members. These members dug a common borehole by taking the loan from SHG and taking the service of one person who water the plants in rotation basis. They also planted the Agave, Silver oak, Pongamia, Neem and Cassia on contour bunds. Later he took the participants to his forest plantation, which was established with the loan help from SHG and MYRADA. In this land, he planted mixed forest tree species by converting the slopy land in alternate trench cum bunds

#### **21.01.06**

Return journey to Bijapur

#### **The main learning from the study tour**

- *In-situ* soil and rainwater conservation activities
- Composting and vermicomposting techniques
- Raising nursery by farmers groups, Agro-forestry and dry land horticulture
- On-farm biomass generation and its utilization in improving the soil fertility
- Production and use of *Azolla* as fodder, mulching, green manure etc
- Different components in IFS / SA model and their compatibility and management

It could be concluded that the ENP staff, after having visited many places and witnessing many farming options, are confident to take up scaling up of activities to contribute towards sustainable agriculture.

Annexure 11  
**Perspective building on gender**

A gender training of five days (6.02.2006 to 10.02.2006) was arranged for the internal staff of AMEF in the School of Ancient Wisdom, Devanahalli. Mr.Harita Sarma and Mr.C.K.Ganguly, HID Forum, Bangalore came as resource persons.

**Training Objectives:**

- To understand personal and social construction of gender
- To understand gender in organizations and projects
- To understand gender dimensions in technology, ecology and agriculture
- To evolve action plans (self, organization and project level)
- 

**The training plan and methodology**

The training was conducted for five days. The sessions focused on the different themes for the first four days (involved individual exercises and group exercises). We started everyday with a yogic exercise to bring our concentration on our learning and we had energizers between the sessions to keep ourselves fresh and relaxed. Action plans were evolved and the discussions on follow up plans and collaborating opportunities were done on the final day, together with a valedictory session.

**Training themes and learning**

| Day | Themes discussed   | Learning  | Usability for my work  |
|-----|--|---|--|
| 1   | Adult Learning Cycle   | Experience is the foremost thing in any learning process followed by observation, reflection, generalization, conceptualization and experimentation       | Will practice the same cycle in any learning process   |
|     | Characterization of men and women<br>- personal<br>- society             | Gender is a part biology construct and a part social construct  | -  |
| 2   | Role play  | The status of men and women over ages<br>Implications of changing the traditional script  | Will be aware of the obstacles that hinder the full participation of the disadvantaged group |
|     | Discussion on I AM map-What is Gender?                                   | There exists both femininity and masculinity in every human being irrespective of men or women. Gender does not restrict only with biological differences | -  |
|     | Analysis of Case study from Tugga village of Gujarat                     | Gender exists in organization   | -  |
| 3   | Engendering process  | Self image will be created when there are behavioral changes  | -  |
|     | Biology and Social construction-Social conditioning                      | Personal and social construction of gender  | -  |
|     | Debate: Women on single hand initiates the task for fulfilling her needs | The ultimate sufferer should initiate for getting things done followed by co-operation  | -  |
|     | What is organization?  | The elements of gender sensitive organization and there exists gender in organization   | Will be aware for the gender sensitive elements  |

|   |  |  |   |
|---|--|--|---|
|   | What is technology?  | There are different dimensions for technology<br>Technology is not gender neutral  | Care for all aspects such as social, economical, cultural aspects while sharing a technology with the farmer. |
| 4 | Analysis of Case study from Mehabub Nagar  | All the steps in a project are not gender neutral (eg.planning and budgeting)  | Projects can focus both men and women as participants   |
|   | Construction of ecosystem map around our chosen area of work (FOCUS on activities of AMEF)                   | Gender in ecology and various components of the ecosystem such as people, institutions, methods / systems, processes and resources | -   |
|   | Analysis of a case study from Kadli  | Gender related shifts  | -   |
| 5 | Evolution and presentation of the action plan both at project level and at organizational level (State wise) | Ways to evolve strategies, activities and indicators for any plan  | Will evolve all the possible strategies, activities ,indicators while preparing any plan.                     |

#### Follow up

- Collection of reliable data on SA activities
- Sensitization of gender –better understanding of gender roles and how they can be translated into action in SA
- Gender sensitive analysis and exchange of experiences
- Actions focusing on the barriers to men and women's management of land and other resources.

Annexure 12  
**Farm School on AIR programme of AME Foundation, Area Unit, Tiruchi**

### Background

A documentation workshop for NGO staff involving mass media representatives was organized in July 2005. During the workshop, the representative from All India Radio (AIR), Tiruchi expressed keen interest in covering AME activities in the Farm programme of AIR. Subsequently three episodes of farmers' sharing their experiences in dryland NRM and NRU were aired by AIR, which evoked good response from farmers. It was then that the collaboration between AME and AIR for a holistic Farm School on AIR programme on livelihood improvement of dryland farmers was initiated.

### Preparations for the workshop

A preparatory workshop involving participants from farmers, NGOs, government departments, university scientists and banking institutions was organized to design the programme outline and mode of presentation. A live phone in programme to get the views of farmers about this programme was also organized by AIR. The curriculum was later developed based on AMEs experiences and the workshop inputs.

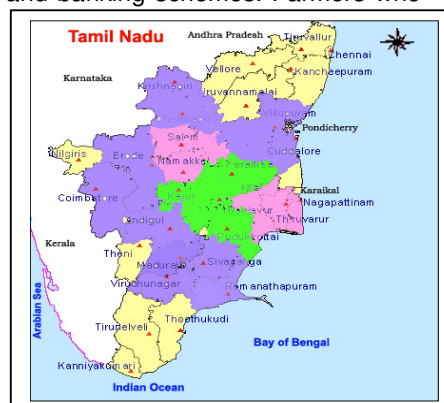
### About the Farm School on AIR programme

The English translation of the tamil programme title is "Drylands give joy". It's a 13-week programme starting from 20.03.2006 and is aired during the prime time of AIR, Tiruchi ie. 7.25 pm. The duration of the programme is 30 minutes and the topics covered include various aspects of dryland NRM and NRU, income generation activities and associated government and banking schemes. Farmers who are interested to know more about the aired content need to register by paying Rs 10 to AME. A one day contact programme for the registered farmers in one or two suitable locations would be organized during which a certificate and a course material would be distributed to them.

### The reach of the programme

The AIR, Tiruchi has an officially declared reach of nine districts in Tamil nadu. However, its reach is in 20 of the 30 districts in Tamil nadu covering a population of about 80 lakhs who are supposed to be active farm programme on AIR listeners (**Source AIR, Tiruchi**).

**Reach of AMEF – AIR programme in Tamil Nadu:** The portions shaded in green, pink and blue indicate the districts from where high, medium and low registrations have been recorded. Those shaded in yellow indicate the districts from which no registrations have been received.

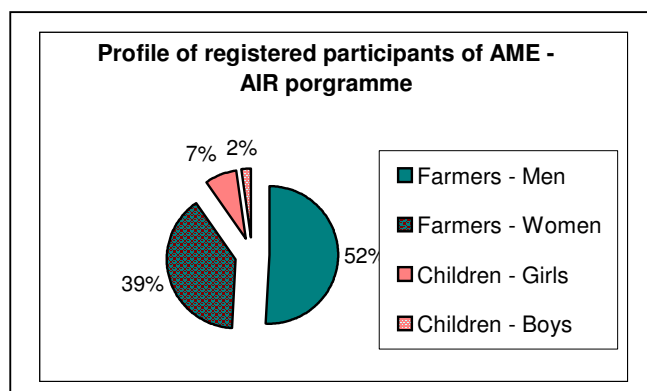


Around 1010 farmers have registered for the current programme. The profile of registered participants is depicted below.

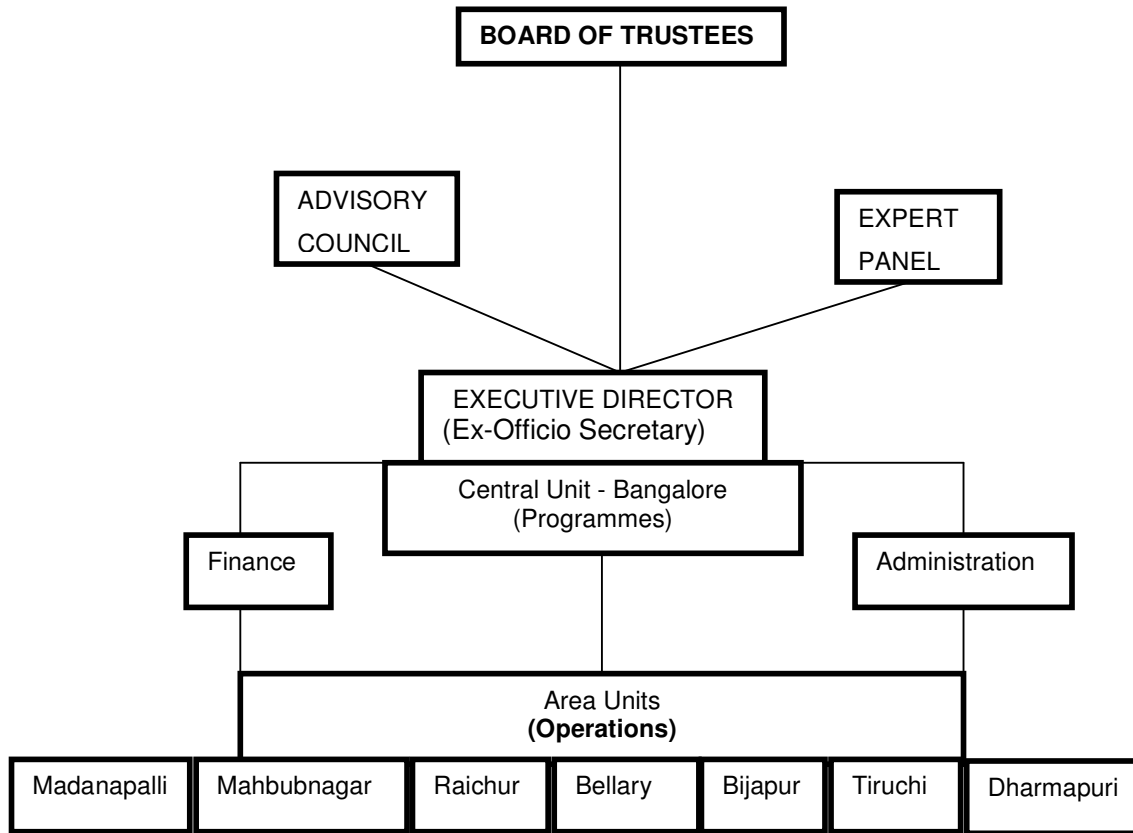
### Creating ripples from the start..

AIR, Tiruchi is broadcasting the Farm School on AIR programme since 1974. However AMEs programme is unique due to the following

- The delivery of lessons is on an interactive mode as against the usual method of straight talk by scientists
- Experience sharing by farmers is part of every lesson which is a rare feature in the earlier programmes
- Children from rural schools have registered in the programme



## ORGANOGRAM OF AME FOUNDATION



## AMEF Operational Areas

### **Central Unit**

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amebang@giasbg01.vsnl.net.in, www.amefound.org

### **Area Units**

**Madanapalli:** II-253-D-7, Colony Ring Road, Madanapalli - 517325, Chittoor, Andhra Pradesh, Ph: 08571-222943 & 227137, Fax (pp) 08571 227070  
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**Mahabubnagar:** Plot # 68&69, Next to H. No 4-88, Near Water Tank, Bhagirath colony, Kirishthanapalli Gram Panchayat, Adjacent to Bhutpur Road, Mahabubnagar - 509 001, Andhra Pradesh; amefmhbm@rediffmail.com

**Raichur:** 1-3-309, RR Colony, Asapur Road, Raichur - 584101, Karnataka.  
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**AMEF BELIEVES  
IN  
“HELPING PEOPLE TO HELP THEMSELVES”**

**AMEF is a resource organisation.** It seeks to empower dry land farmers in degraded ecological situations on the Deccan Plateau, in improving their own livelihoods, along with gender and social equity concerns. Pursuing this goal, it works with farming communities, like-minded NGOs, and government agencies in creating and testing technological options, for wider applications. In the process, it strives to forge institutional synergy among the bio mass actors, playing a catalytic and facilitative role.

**AMEF is motivated by a deep-going concern.** Transformation in Indian agriculture became possible through Green Revolution technology, which benefited the better-endowed regions and resource-rich farmers, using expensive purchased farm inputs. But, it bypassed the vast dry farming tracts. Trapped in these areas are a large number of small and marginal farmers struggling to make a living, with their environment-depleted soils eroded and ground water sinking rapidly. Working with these families, searching for alternative farming options is a matter of great socio-economic and strategic necessity.

**Does AMEF create something out of nothing?** Hardly the case. Adopting the PTD and FFS approaches, AME teams up with responsive farmers groups, interested NGOs and development agencies to locally explore new ways of managing the available natural resources. In the process, new perceptions are generated, new insights are gained and new approaches are devised, combining the traditional knowledge with scientific contributions. Thus, farmers are enabled to progress one step beyond the present.

