

“Promotion of Sustainable Agriculture and Diversified Livelihoods in Anantapur District” (2015-18)



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5th April, 2017

Dear Malla Reddy garu, Ms Kerstin Ania Hahn, Mr Sanjay Patra and Mr Vikas Negi,

Greetings! I am attaching herewith the evaluation report, finalised after a De-Briefing meeting with the management team of Accion Fraterna on the 31st of March 2017.

I am really grateful for the opportunity I got to be involved in this evaluation. I found a rarely-witnessed openness, honesty, transparency and willingness to introspect and reflect, in AF-EC. As the leader of the organisation, Dr Malla Reddy is setting a great example in upholding all these values for the entire organisation. I would like to thank the entire organisation and the community members for their time and cooperation, and for enthusiastically participating in the evaluation process, which was sought to be made as participatory as possible.

The hardships and challenges of survival and dignified livelihoods in a district like Anantapur, that too in a severe drought year like last year (continuing even now in an acute form), are comprehensively and sensitively understood by AF-EC and the alert responsiveness to the emerging needs in the region is very apparent.

Thanks again for all the good work!

Kavitha Kuruganti

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Attachments

- AF-EC final evaluation report-5th april 2017 7pm.doc (1.01 MB)

5th April, 2017

Dear Kavitha Kurugani,

I wanted to express my thanks for this so clear structured, comprehensive and participatory Evaluation Report with very well thought out recommendations the which ones will hopefully be an added value for the organization.

It was a pleasure reading report.

Furthermore I also wanted to thank Dr Malla Reddy and team for the continuous efforts and cooperation to improve Programs.

Best Wishes from Germany,

Kerstin Ania Hahn

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List of Abbreviations

Abbreviation	Expansion
AEO	Agricultural Extension Officer
AF	Accion Fraterna
AF-EC	Accion Fraterna Ecology Centre
AP	Andhra Pradesh
ASMS	Apex Sasya Mitra Samakhya
ATL	Area Team Leader
BC	Backward Communities
CBO	Community Based Organization
CMSS	Community Managed Seed Systems
CSO	Civil Society Organization
FFS	Farmer Field School
FGD	Focused Group Discussion
FPO	Farmer Producer Organisation
GSMS	Grama Sasya Mitra Samakhya
Ha	Hectare
HEIDA	High External Input Destructive Agriculture
HMV	Heavy Motor Vehicle
IFAD	International Fund for Agricultural Development
IFS	Integrated Farming System
IWMP	Integrated Watershed Management Program
JLG	Joint Liability Group
LEISA	Low External Input Sustainable Agriculture
LMV	Light Motor Vehicle
MACS	Mutually Aided Cooperative Society
MARKFED	Marketing Federation (Corporation)
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MIS	Management Information System
MSMS	Mandal Sasya Mitra Samakhya
NGO	Non-Governmental Organization
NREGS	National Rural Employment Guarantee Scheme
OBC	Other Backward Classes
PGS	Participatory Guarantee System
PI	Protective Irrigation
PKVY	Paramparagat Krishi Vikas Yojana, a flagship scheme of Govt of India to promote organic farming
PME	Planning, Monitoring, Evaluation
SA	Sustainable Agriculture
SC	Scheduled Caste
SMG	Sasya Mitra Group
ST	Scheduled Tribe
STO	Socio Technical Organizer
WDC	Watershed Development Committee
ZBNF	Zero Budget Natural Farming, a variant of LEISA

Executive Summary of the Evaluation Report

Background

This evaluation was taken up for the 3rd phase (2015-18) of “Sustainable Agriculture and Rural Livelihoods Project” being implemented by Accion Fraterna Ecology Centre in collaboration with BftW. AF Ecology Centre began implementing Sustainable Agriculture and Diversified Livelihoods Programme since 2007-08 and at present, this is EC’s core programme, though it continues watershed development programmes with funding from government agencies, in addition to taking up implementation of government sustainable agriculture programmes around millets and diversity-based cropping. All these programmes run in 230 villages of Anantapur district (mainly in 8 mandals/administrative blocks of the district), covering about 30,000 drought affected families of rainfed farmers and farm workers, with emphasis on sustainable, diversified rural livelihoods. The previous external evaluation was in August 2014. This current evaluation incidentally comes at the end of a decade of interventions for “sustainable agriculture and rural livelihoods” by AF-EC.

Ecology Centre understands that promoting Sustainable Agriculture is very challenging in the agro-climatic situation of Anantapur. It invariably involves drought mitigation as well as promoting practices of Climate Resilient Sustainable Agriculture in order to achieve a degree of livelihood security. AF Ecology Centre recognizes that it is a very challenging long term process. This kind of work, of this magnitude, has been rarely attempted by NGOs and so there are no ready-made strategies and recipes in sight to be followed. It calls for continuous research, experimentation and action-reflection-learning process. By now AF Ecology Centre has made a good contribution in this direction. The past few years have seen a lot of trial and error, organizational learning and change in terms of defining its goals, objectives, approach, strategies, activities, processes and systems. AF has acquired a substantial domain knowledge and demonstrated appropriate conceptual understanding, technologies, practices and skills. It has organised a people’s institutional system of Sasya Mitra Groups (SMGs) and their federations. It demonstrated, trained, campaigned and introduced drought resilient Sustainable Agriculture cropping practices with farmers in the project area; and raised awareness and voice on the issues of agriculture, droughts, desertification, groundwater depletion, gender etc., among the public and Government authorities. Public opinion was mobilised and advocated successfully for favourable policy environment for rainfed agriculture & rural livelihoods. In the process, AF has been on its toes in changing and adapting itself to catch up with changing scenarios and in accessing new opportunities for the project beneficiaries¹.

The severe distress in the villages was apparent during the field visits. There was a general sense of despondency and despair with people’s spirits being challenged constantly by extremely harsh weather conditions and the pathetic state of natural resources. Water scarcity as seen in the drying up of even a 5-year old fruit orchards was seen in various villages.

It is clear that considerable time of the households is going into fetching drinking water, and expenditure incurred in even purchase of water. Farm suicides continue unabated in the district, as an extreme manifestation of the prevailing agrarian distress. Large scale migration of the landless and smallholders continues to be the norm, with instances of human trafficking being regularly reported, given increased vulnerability of the communities here to such exploitative and illegal operations. Several risk mitigation safety nets that are supposed to be put into place by the government fail to be implemented properly in addition to being ineffectively designed – these include the national rural employment guarantee programme as well as crop insurance and disaster compensation mechanisms of the State.

¹ This paragraph has been copied from the Terms of Reference provided to the evaluator.

Evaluation: Cause and objective

It is worth noting that this evaluation took place when the project (2015-18) is about to complete its second year of a 3-year project, that too after a severe drought year with water scarcity apparent everywhere (with rainfall failure that has not been witnessed for more than a hundred years). The evaluation timing is such that it is missing out on an assessment that would have been different if done after the completion of 3 years of the current phase (it can be safely assumed that projects do gather their best momentum in the third year of implementation in such 3-year projects) and the possibility of good rainfall in the monsoon season of 2017 possibly strengthening livelihoods in this drought prone district quite substantially.

In a district like Anantapur where interventions in agriculture can possibly have a significant impact only once in a year (predominantly one-season, rainfed farming for a whole year with no agricultural options for the rest of the year), the second year of the project ran into unexpected (and unusual even for Anantapur) adverse weather given that the season began on a very hopeful note with early rains, followed by a prolonged dry spell for nearly 120 days as has not been witnessed in more than 100 years. The dry spell period was almost equal to an entire agricultural season! This means that in effect, the agricultural interventions and their potential could be evaluated for only one year of this phase, given that one-third of the time left for the project is yet to commence and the previous year was a major drought year.

This evaluation has also been timed to feed into a Strategic Planning exercise that has been taken up near-simultaneously by AF-EC, as per the recommendations of an earlier evaluation exercise. This then is supposed to create a broad road map for the next 10 years.

The following are the main objectives for this evaluation (March 2017):

1. To assess the relevance of the Sustainable Agriculture & Diversified Livelihoods programme in Anantapuram District, given its chronic drought-proneness, climate change, arid & semi-arid agro-climate, together with the continuing crisis in rainfed agriculture and rural distress.
2. To assess the efficacy of the strategies, systems and activities of Drought Mitigation Sustainable Agriculture & Diversified Agriculture.
3. To assess the organizational efficiency, learning and change in the past 3 years including the new initiatives and organizational development.
4. To assess the participatory approach and people's institutions ie. SMGs and their federations at various levels (formal & informal) and their involvement in the programme.
5. To assess the impact of the programme in terms of benefits to farmers in terms of their level of awareness, knowledge, skills, practice and impact of the technologies and practices of Sustainable Agriculture and Diversified Livelihoods on the farmers.
6. To assess the impact of other livelihoods such as vocational trainings with under-educated rural youth.
7. To assess the environment, gender & social equity policies in the programme with people.
8. To assess the role and impact of Ecology Centre in building public opinion and policy advocacy, including networking, collaboration with CSOs, academic & research organisations, Government agencies.

The evaluation was done by Kavitha Kuruganti, an experienced development worker and social activist, supported by Hrishikesh Parthasarathy (who is part of an impact assessment unit of a philanthropic foundation) who provided *pro bono* services in data analysis from the project MIS and partial participation during field visits.

The entire evaluation was sought to be done in a participatory manner that facilitates critical, reflective processes by the members of the village institutions as well as the NGO.

We would like to place on record our tremendous respect for the very open, transparent and honest processes that the organisation adopted for this evaluation.

It is also important to record that AF-EC as an organisation has been constantly reviewing and monitoring progress and lack of the same, if any. To that extent, several of the findings and observations from this evaluation have already found resonance in their own reviews and there have been some recent changes that have resulted in a spurt of activities around off-farm and non-farm enterprises because of internal monitoring in the organisation.

Key findings

AF-EC's project on "sustainable agriculture and rural livelihoods" focuses on drought mitigation technologies, in addition to sustainable agriculture practices that assist in drought resilience and adaptation, on the agriculture front. With a realisation that this alone is not enough even in the best of years, given the carrying capacity of the rainfed land here, there is a focus on diversification of livelihood/income sources and this is where AF-EC's focus on off-farm and non-farm livelihood options and skill-building for the same comes into the picture.

While drought mitigation focused on provision of protection irrigation (including through rainwater harvesting in farm ponds and preventing total seepage of the same) and of planning for contingency crops, drought-resilient farming practices included diversity-based cropping, higher-yielding suitable varieties of crops being introduced, timely sowing and germination through adoption of different techniques (like mechanised planting by "Anantha Planter", Aqua Planter and Row Water Sowing which are both about provision of a little water along with sowing for assured germination to help farmers take a decision on sowing time, Sub-Soiler etc.). There are also other practices introduced or popularised that seek to reduce out-of-pocket expenses for farming operations and these include Cycle Weeders and "mutual cooperation" that encourages a traditional practice of labour exchange between families. There are also additional interventions like 3-layered seed/grain storage bags that help reduce storage losses after harvest. Non-Farm interventions included continuation of skill-building for driving, tailoring etc. in addition to trying out new vocational courses.

As strategies for adoption of an idea or intervention, the organisation tries out a basket of measures: demonstration plots, field days, 'campaigns' etc., in addition to motivation and knowledge-building through exposure visits, trainings, farmer field schools etc.

Quite apart from the technical interventions on the farm livelihoods front and skill-building on the non-farm front is the matter of building community institutions, starting from the Sasya Mitra Groups (SMGs) in the villages to federated structures, not just as an implementation mechanism for the planned interventions, but as a mechanism that will provide for greater participation of the community at all stages of the project and to build sustainability of the programme.

FINDINGS:

General: As we went around villages in 7 mandals of the project, visited a few farms and interacted with numerous community members and others as part of the evaluation, the challenge of working in the harsh environs of Anantapur district became very clear. Last year has been particularly bad and all evidence points to deteriorating situation in the district when it comes to water scarcity. Groundwater is depleting really fast and climate change with extreme weather conditions is making the situation worse.

It is in such a setup that the organisation has taken on the challenge of establishing sustainable rural livelihoods (farm, off-farm and non-farm) with full participation of the community as well as the effort of then seeking larger change and impact through policy-influencing. The sincere and extremely committed efforts of the entire organisation have to be acknowledged and recognised. It was apparent that the organisation has well-built systems for constant feedback from the

ground, and is ready to adapt and respond to the emerging needs. The Director Dr Malla Reddy has fostered and nurtured a culture where people are free to learn, experiment, make mistakes and also carry forward work in specific areas of passion and interest. Community institution-building has received a lot of focus and the membership mobilised in terms of households who are part of SMGs is significant. The structural focus on women in key leadership positions and equal space in all institutions is an affirmative policy from the organisation that is quite empowering. There is tremendous goodwill for AF-EC (including the goodwill extended due to its RDT connections) and for their work. This is not just from the village communities but also from various other development agencies including government departments and institutions.

Relevance of the programme: It is seen that the overall basket of measures developed/introduced by AF-EC for the uncertain and low rainfall situation of Anantapur farming is absolutely relevant and needed for the farmers of the district. It can also be seen that farm interventions are not very relevant for the poorest landless in the district and within the project villages, landless members find that their lives are not touched significantly by these interventions. In fact, one of the interventions of encouraging 'mutual cooperation' through labour exchange has the potential to adversely impact the lives of landless agricultural workers, if not done more carefully.

It can also be said that not all interventions are relevant for all kinds of farmers or all kinds of years, understandably. While the Anantha Planter might be needed more by those farmers who do not own bullocks, the cycle weeder will not be conducive for larger land owners with limited family labour. This is known to the organisation too, and that is why some interventions have multiple versions that are suitable to different kinds of farmers (cycle-seeder, mechanised oil-engine based seeder as well as Anantha Planter are meant for different landholding classes). Cement lined farm ponds have been found to be more useful by tree-crop growers, when they were able to capture some rainfall in the ponds. Ordinary farm ponds (dug with government assistance under an employment guarantee programme) are appreciated more by farmers who have borewells where water recharge happened due to water stored in the farm ponds after good rains. Contingency crops by their very nature are deployed when rains fail in the first part of the monsoon season's sowing time, and this is needed in all those areas where rainfall has been delayed.

It is also seen that there is intra-project variability in rainfall and other weather conditions (apart from socio-economic conditions) across mandals and villages. This also means that not all interventions are needed or relevant for all project villages in any given year, even if project planning might have assumed that the intervention would be required in all mandals (as the planning rightly should). In any given year, it is normally seen that at least one-third of the mandals of the district are under a drought spell. This then means that all interventions need not and should not be implemented as per plan and a certain flexibility should be exercised by the organisation to respond to emerging needs.

Therefore, it is understandable that specific interventions and their relevance vary from farmer to farmer and season to season. Similarly, the clear recognition that farm livelihoods have to be supplemented by other livelihood sources has spurred skill building on the non-farm front, which is also highly relevant and needed. It can be concluded that the overall basket of measures developed by AF-EC to suit diverse conditions of cultivation in the district, and an approach of keeping ready a diversity of interventions to promote, along with off-farm and non-farm livelihoods is highly relevant.

In fact, as policy/programme influencing is a key focus of the organisation, the organisation should be able to pare down on some of its planned activities if it is successful in mainstreaming any specific intervention. While the intervention might still be relevant even in such a case, the organisation might choose to withdraw that component since the government is doing the same, for instance.

Efficacy of the programme and its strategies, systems and activities: In terms of effectiveness, interactions with community members expectably revolved around the most recent year of cultivation (recall value of the same being higher) and here, protective irrigation was repeatedly mentioned as the most effective intervention. Given the long dry spell in last Kharif (2016), such protective irrigation to crops like Pigeonpea and Castor, with one or two tankers of water provided per acre of land, resulted in at least some crop being harvested compared to neighboring plots which yielded nothing. Field interactions (with its own limitations of sampling and sample size not rigorously picked up) point to around Rs 1500/- being the additional gain (this is a conservative estimate, of around half a quintal of pigeonpea, measured at low market prices that prevailed in a glut year) by farmers due to provision of such protective irrigation, which was used by most for household consumption. This then would have added to the food basket of the family, which otherwise might have been difficult. This could be gleaned from FGDs with members of SMGs from Karutlapalli, Narayanapuram, Ramenapalli, Tumparathi, Pothula Nagepalli and Kanumpalli. When it comes to another intervention of “Contingency crops” (seeds of particular crops like horsegram and jowar when rains fail during the main planting time window), the benefit is seen to range from Rs. 2000/- per acre (horsegram) to Rs. 5000/- per acre (jowar, mainly as fodder).

In the case of Navadhanya programme where the government supports supply of seeds of 9 different crops keeping in mind the need for diversity for resilient farms as well as steady source of employment and income in a staggered fashion for a full 6 to 9 months, it is seen from FGDs that some farmers obtained an additional income of at least Rs. 1860/-, compared to groundnut farmers.

There is large evidence throughout the field visits that awareness, knowledge and skills with regard to drought resilient sustainable farming practices do exist with the community – while such awareness is varying in different villages, there is certainly a basic appreciation for LEISA. This could however be attributed to factors other than this NGO's efforts too, with credit going to the organisation for being one of the frontrunners on this aspect. Adoption of such practices starting from drip irrigation to farm ponds for rainwater harvesting etc., are very much apparent, also aided by numerous government subsidised schemes in the recent past.

Impact of the programme: In terms of impact, as measured by adoption of certain practices by farmers who have not been directly supported by the project and by the larger non-member community in project villages, it appears that both the Anantha Planter (aided by some agri-machinery businesses pushing it in the market given the increased demand for mechanised sowing) and Protective Irrigation to save crops have seen good uptake by others in this phase. The Government of Andhra Pradesh had picked up the idea of PI and under the Chief Minister's direct oversight, implemented the concept through rain guns and other means on 50,000 acres in 2016 (kharif).

On the impact front, it can also be said that an exposure visit organised to a well-known farmers' cooperative in Telangana (Mulkanoor) has had a large motivational effect on leaders of SMGs (as reflected in numerous FGDs during the evaluation) and this has spurred much action towards creation and intense activities of new Mutually Aided Cooperative Societies (MACS) which will now function as Farmer Producer Organisations (FPOs) for aggregation, trading, and evolving of a revenue model based on service provision in some government schemes etc.

Organisational Efficiency: It is noted that the organisation has devised various systems for efficient running of the organisation as well as its programmes. This applies to HR and financial systems too. On the ground, it is observed that these systems are sometimes not followed.

Cost efficiency is apparent in the per unit investments made for different interventions, which also add to replicability and mainstreaming possibilities of an intervention. This could be attributed mainly to the high turnover at the frontline level (STOs, who are placed at the cluster level of 4-6 villages each). It is seen that there is a general culture of frugality and minimisation of wastage that has been fostered in the organisation.

People's Institutions, participation and involvement: When it comes to community organisations, ie., SMGs, RFCs, GSMs, MSMSs, MACS and ASMS, these institutions seem to be in a transition mode at the time of this evaluation (informal institutions changing into formal entities). There is an urgent need to streamline the same so that community level disillusionment can be avoided, and higher participation achieved. The multiplicity of institutions with some institutions that are keeping out existing SMG members is being looked into. The agenda so far appears to be driven almost completely by the NGO. There is a distinct difference in the sense of ownership over the CBOs in different mandals of the project area and this seems to be partly from extant socio-cultural conditions, including the proximity to towns like Anantapur. The different levels of participation could also be attributed to local leadership and appropriate identification and nurturing of the same by the NGO. Landless households have received lesser support for lack of suitable interventions for them, and it is worth noting that while a few such SMGs have closed down there is also much hope being exhibited by these landless SMGs, where they exist, from the organisation. The evaluators note and acknowledge the great challenge in providing off-farm and non-farm livelihoods to these households, given the distressed local economy that prevails in the villages of the district.

Sustainability, Gender and Social Equity in the Programme: There is scope for further sharpening of social equity focus when it comes to class, caste and gender. The danger of missing out on such a social equity focus is there at a time when numerous non-farm micro-enterprises are being attempted, when even this set of interventions (as has happened with farming-based interventions) can be garnered by ones who are not the poorest, or from dalit community or by women, especially single women. At present, the organisation is not very sharply focused on the most marginalised (landless single women, for example), given the very nature of interventions it has been focusing on. The challenge of providing viable enterprises to such households remains and no easy solutions are available.

The way gender plays out in the project is very complex and needs a nuanced understanding. While structurally the CBOs are supposed to have leadership mainly in the hands of women, with equal numbers of men and women participating in the SMG on behalf of their respective households, in various subtle ways, men continue to drive the programme. The thrust cannot be just on women being empowered to exercise their autonomy, but also to get men to involve their spouses in decision-making which requires further work with men in the communities.

Environmental sustainability in farming is a concept that has been promoted by the organisation in numerous ways. However, more active internalisation of the concept of sustainability should be built into people's mind. For instance, the idea of doing commercial chemical fertiliser sales as part of the FPO activity goes against the principles of sustainability adhered to by the organisation thus far. In the recent past, AF-EC seemed to have put out messaging on chemical fertilisers and pesticides to be used in particular crops. This again goes against the principles of sustainability being promoted with the community and any mixed messaging would be certainly confusing to the members, other than being against the principles of LEISA.

Vocational Training for Rural Youth: Non-Farm interventions in the form of skill-building in driving and tailoring have paid off quite well – more so in the case of the former. The breaking of gender stereotypes in the case of driving is path-breaking, and it is apparent that the women drivers supported by the organisation feel very empowered. Financially also, they are doing quite well. Such breaking of gender stereotyping should be attempted in all other non-farm interventions too. Small micro-enterprises have been initiated in the recent past in a sudden spurt of activity on this front. Several landless single women have benefited from this effort. However, social equity focus has not always been sharp in all cases. Leveraging of additional financing from banks has happened successfully and it appears that the spread of off-farm and non-farm livelihoods should receive much greater attention in future. Newer vocational courses have been added to the basket of skills on offer including computer training and mobile phone servicing. In all, 1353 youth have been trained in various vocational courses and 36% of them are gainfully employed. Several garment-making units are waiting to find forward linkages and it

is expected that these will fall into place soon. Additionally, 392 youth have become employed through job fairs so far in this phase/project.

Advocacy, public opinion building and policy influencing: AF-EC's successful advocacy with government (in several cases, along with other CSOs) is apparent from large scale programmes being initiated by Andhra Pradesh government for local groundnut seed production and distribution (Community Managed Seed Systems or CMSS), promotion of diversity-based cropping through the Navadhanya programme, revival of millets cultivation and consumption, tree crop integration with dovetailing from NREGS programme, farm pond lining for greater storage of water for protective irrigation etc. Work on this front has encompassed agriculture research to extension to new programmes being grounded by the government. The much-publicised emphasis on protective irrigation by the AP government during the peak of the dry spell last year with the Chief Minister himself camping in Anantapur for this purpose is in a sense the fruition of the efforts of AF-EC.

AF has been advocating for conjunctive use of water through the concept of "*Anantha Jala Valayam*", with the realisation that Anantapur needs all sources of water to be tapped in conjunction with each other, for any substantive change in the current state of affairs. This includes rain water and soil moisture, surface water in rivers and tanks as well as groundwater. The Anantha Jala Valayam concept has to be accompanied by suitable statutory regulation against unsustainable NRM practices. The long-pending demand for filling village water tanks (ponds) with water from a river water canal is being met here and there, and this has now become a political demand from the communities in the area. This could then be a more impactful solution, provided that supply of such water does not lead to large scale unsustainable High External Input Destructive Agriculture (HEIDA).

AF-EC's collaboration with AP government is visible in the initiation of two large scale programmes about to be rolled out – Zero Budget Natural Farming (ZBNF) with Government of India funding, and an Andhra Pradesh Drought Mitigation Programme with IFAD funding. Several of the above-mentioned initiatives reached their fruition in the current phase.

Sustainability: The path towards sustainability is visibly established, as can be seen (a) from large scale adoption of some interventions by community members who are not direct beneficiaries of the project (it can be said that demand is high enough that market forces have taken over the possibilities of wider adoption), (b) by the strength being gained by CBOs built in the project, (c) in the future prospects offered by FPOs and (d) by successful policy advocacy bringing in large scale sustainable agriculture programmes by the government.

Key recommendations

1. **Focus on a set of chosen, popular drought-proofing and drought-resilient low external input sustainable agriculture practices:** On the agriculture front, the present time appears to be a right time for consolidation. It is clear that interventions to suit various purposes have already been successfully evolved, whether it is meant for rainfed farmers or irrigated farmers. These recommendations range from particular varieties of seeds to resilient cropping systems, rainwater harvesting, protective irrigation etc. It is important that the project focuses on the more popular interventions (which have been popular because of clear economic benefits accruing to a given household) and their adoption on a wider scale, by bringing in other players into the picture (local entrepreneurs, government agencies etc.). These seem to include: protective irrigation, 3-layered bags, contingency crop seeds' supply, demo plots for newer varieties of crops, Navadhanya, CMSS, cycle weeders/seeder etc. Some of the popular interventions also need further improvements as in the case of early versions of Anantha Planters or even seed varieties like "Shakti" green gram (resistant to yellow mosaic).

The organisation has to not only clarify its stand on synthetic-chemical-inputs-based farming, but would have to promote it pro-actively with its members and others, in anticipation of a good season of rains and also groundwater recharge through Handri Neeva project (river water used to fill village tanks) – constant reminders of the need for LEISA are important in a fragile ecology and economy as that of villages here. It is also coincidental that AF-EC's own research is pointing to the superiority of organic farming in vegetable cultivation in which some systematic experiments have been taken up on the organisation's research farm.

It appears that tamarind tree rearing (with early-yielding varieties) is hardy and remunerative as at least one or two trees grown in one part of the land near a bund. This could be encouraged some more by the organisation.

There are some interventions that the organisation itself has zeroed in on, as ones which are not feasible or as ones which do not find an adequate response from the community as of now – these include carbon revenues from low carbon farming, tree-crop farming, sub-soiler, fodder plots on public lands and Farmer Field Schools (FFS) as a strategy of capacity building and action. It appears that backyard nutrition gardens have been abandoned by the community in the current acute drought situation. Row water sowing has also not yielded much result, as per farm diary data.

- 2. Focus on off farm and non-farm livelihoods in a big way:** It is time that the organisation focused on off-farm and non-farm activities in a big way, in addition to ensuring that opportunities are opened up for farmers for marketing their produce in a remunerative and profitable fashion through FPOs as well as tying up with government procurement agencies. There is greater hope in the community on such interventions than on farm interventions. In various FGDs, it was apparent that wage work without any accompanying risk (except that it hinges on the availability of such employment, of course), ram lamb rearing, and micro-enterprises evoke a great deal of hope and response. It was repeatedly emphasised that these are very much needed. Right now, the alternate livelihoods intervention of the project is focusing only on rural youth (both men and women), whereas the demand is for/from everyone, for diversified livelihoods.

In this effort, it would be important to have sharper social equity focus on landless households, on women-headed households including single women, on dalits etc.

It appears that ram lamb rearing is a remunerative and relatively-low-risk enterprise and should be invested upon wherever there is such a request and it is feasible. Numerous non-farm micro-enterprises might be possible from the level of concentration of a diversity of such activities seen in one village during the evaluation process (Gangavaram). While not all of them will have margins enough for an entire household to depend upon, this will allow for diversification of income sources. The possibilities for Joint Liability Groups (JLGs) financed by banks could be explored further, since this comes with the possibility of interest subvention. Given the general depressed local village economies, some of the enterprises should be devised to cater to distant (urban) markets with their disposable incomes, and here collective enterprises have to be thought of and not just individual enterprises. Garment making units (as a progression from tailoring by individual women) is an example.

There appears to be room for more youth to be drawn into driving, which is improving the lives of most of the trainees that the organisation invests upon. Similar is the need to set up garment-making units if forward linkages are available and this is being actively explored.

Kitchen gardens should be nurtured despite the challenges it offers, to ensure that some savings can be made on cash outflows for purchase of vegetables in addition to increasing the intake of such vegetables by self cultivation.

It is also important that the organisation tries to ensure that its poorest and most marginalised members are adequately covered by government programmes that provide

basic social protection – this includes PDS ration cards, pensions etc. Further, ensuring proper implementation of NREGS, especially for the landless SMGs is an important contribution that the organisation can make, even if it means only 30-45 days of work per adult per household. Given that the focus is on diversified livelihoods, such employment provided by government's employment guarantee scheme also adds to the basket of livelihood sources available to marginalised families. There is also much scope for the organisation, given its credibility and policy influencing ability, to get NREGS scheme re-designed and expanded further if it puts its energies behind the same. The organisation can also educate all its members about the Supreme Court orders in a PIL (public interest litigation) related to drought and ensure that these Orders are implemented in their letter and spirit.

The evaluator would like to strongly recommend an unusual approach for the next phase: that of keeping at least 1 crore rupees as fixed Bank Guarantee (with the interest being available for some ongoing activities) for individual members as well as small JLGs or entire SMGs to pick up off-farm and non-farm enterprises, after rapid appraisals and after identifying the most needy amongst the members.

3. **FPOs hold much hope and need systematic nurturing:** There is much interest amongst the CBO leaders to try their hand at post-harvest marketing activities including as seed, value added produce, processed produce and even pick up non-farm income generation / trading activities. While members also understand the need for the same, they are not always in a position to pay their share capital of Rs. 500/- to Rs. 1000/- in time. The drive to enrol as many members as possible should continue with even the option of lending the share capital money from members' savings in the SMGs. It is important that all SMG members find membership in the FPOs too. A full-time Central Office team member designated for guiding these FPOs is a welcome development. External consultants might be engaged from time to time to take up appraisals/feasibility studies of proposals from the FPOs. Capacity Building investments have to be made in the upcoming phase to help the FPOs evolve into independent/autonomous entities. All the existing MACS could be federated into one FPO registered as a Producer Company at the appropriate time. Such a hybrid structure at various levels (informal groups at the village level, cooperative societies at the mandal level or village level in the case of RFCs and producer company at the highest level) will allow for different kinds of activities to be done by different institutions as appropriate.
4. **Organisational changes needed:** For an organisation that is keen on influencing government policies and programmes by establishing models at the grassroots at a convincing scale, the need for proper documentation and evidence-building cannot be over-emphasised. The lack of systematic data collection and analysis is something that requires immediate action - this has happened despite some systems of monitoring being in place. The PME team has to be kept full time on the job without any additional roles and responsibilities, and this can be done with even a leaner 3-member team (one team leader and two associates). One of the existing PME Associates is already functioning as HR Manager and might be explicitly designated as such, while another is looking at Government Programmes and might have to be given full time work as such. The existing team leader has already been moving towards a role of Community Institution Building. While having a flat organisation certainly has its advantages, the future thrust being proposed on off-farm and non-farm livelihoods also might need organisational re-structuring. AEOs placed as one staff member at the mandal level might be re-designated as Mandal Livelihoods Officers (MLOs), with the STOs reporting to them directly. This might require only two ATLS as line managers of 8 MLOs (it might be possible that two ATLS will be willing to be re-designated as MLOs if their salaries are protected, and fill up the two vacant AEO posts that exist today as MLOs). The two ATLS in turn could report to the Chief-Sustainable Agriculture who would have to be re-designated as Chief-Livelihoods. The Community Institution Building expert would have to work at all levels. "STO Pool" might have to be created with at least 10 new recruits kept on the standby additionally at any point of time. There is a need to invest in staff capacity building at all levels on issues other than agricultural technologies/practices.

5. **Further scope for Equity and Sustainability focus:** The organisation can further sharpen its social equity and sustainability focus and this can be done by re-looking at off-farm and non-farm options for the landless, single women etc. A rigorous survey on the current status of landlessness amongst members and non-members in the project villages should be taken up towards this. Gender equity concerns need to be dealt with by more conscious shaping of each intervention by the team leaders, given that STOs and SMG leaders would take some more time to re-socialise themselves on this front.
6. **Streamline Community Based Organisations:** The evaluator would like to recommend that all members of the SMGs be made into members of MACS/FPOs at a basic level of share capital payment, with those expressing their inability to pay the increased share capital amount being loaned some amount from their savings. The FPOs should have a senior staff member appointed full-time for the purpose guiding them, including investing on capacity building of FPO leadership. FPOs already have opportunities for service provision in government programmes (by performing their role as Mana Vithana Kendrams (MVKs) in the Community Managed Seed Systems (CMSS) programme or as programme implementation agencies for Navadhanyam and Millets programmes, or by opening procurement centres for government marketing agencies).

SMGs need further strengthening as the basic units of community organisation. A couple of Rainfed Farmers' Cooperatives (RFCs) have indeed shown the potential of such SMGs when the organisation leverages other agencies to support the SMG, and when appropriate leaders are selected and nurtured at the SMG level. A scoring system could be introduced for the SMGs, with some discretion left for the organisation to intervene on a need-based fashion so that performance along certain chosen parameters can be improved for all SMGs. Such parameters can be chosen in consultation with the CBOs. SMGs might need their own bank accounts to be opened given that the volumes of money being transacted are getting larger (each group's average savings range from Rs. 19,250/- to Rs. 27,800/- across different mandals). This might improve their chances of being financed as JLGs by bankers. As an interim measure, half of the savings can be rotated at the member level for some more time to come, while half can be put in a bank account.

SMG sub-groups can continue as informal but identifiable units as is happening now, both for functional purposes (for mobilising members into meetings, mutual oversight on activities, mutual cooperation etc.) but also because they can be converted as PGS groups (Participatory Guarantee System) for organic farming under PKVY or otherwise.

MSMS meetings could be re-organised in a manner that functions being performed by the GSMS can be performed in one hour of designated time for cluster level discussions during the monthly MSMS meetings. Here, the main GSMS function of apportioning activities between SMGs can be taken up. This way, village level GSMS functions can be taken up at the MSMS level, saving time for both the CBO leaders and for the STOs (with one of the SMG Convenors designated as Village Convenor and one of the Co-Convenors as Village Co-Convenor). At a later date, when the SMGs are strengthened as a basic unit of the CBO structure, if the need for a distinct village level federated institution arises, that may be looked into.

ASMS should be nurtured not just as a sounding board for the NGO but as a strong advocacy and lobbying body on behalf of its farmer-members in 8 mandals of the district. It should become a political force to reckon with, when it comes to policy decisions that have to prioritise farmers' interests. This requires careful investments from the topmost personnel of the organisation, in addition to knowledge-building about government policies, programmes and schemes. The constitution of the ASMS should reflect the equity concerns of the organisation, with equal space provided to women members, in addition to landless, dalits etc.

MAIN EVALUATION REPORT

1. Short description of the subject matter of the evaluation

This is an evaluation of the 4th Phase of a project titled "Promotion of Sustainable Agriculture and Diversified Livelihoods in Anantapur District", being implemented by Accion Fraternal and supported by Bread for the World-Protestant Development Service (Project Number N-IND-2015-0024/EZE-No.20150205/BMZ-No.201574383). The evaluation is for the project phase between 2015-2018, and took place in March 2017.

Background to the project: Located in south-western corner of Andhra Pradesh, Anantapur District is the epicentre of rain shadow area in South India. Anantapur District receives the lowest and most erratic rain fall in South India and the second lowest in the country, after Jaisalmer in Rajasthan State of North India. The average annual rain fall in the district is 552 mm that again is spread sporadically and erratically. It is one of the most drought affected, poorest and arid districts in the country. AF project area comprises of 8 Mandals in Anantapur district – Atmakur, Kudair, Kalyanadurg, Beluguppa, Kundurpi, Settur, Dharmavaram and Rappthadu. These Mandals are the most backward in the district. The population in the project area comprises 15% SC, 3.5% ST and 60% Backward Classes. There is not a single industry in the operational area to provide employment to educated youth. A number of small-scale groundnut processing units have closed down due to continuous crop failure and market uncertainty. Distress migration to Bangalore and other urban areas seeking unskilled labour has increased year after year.

AF's project area comprises of 230 villages and about 62,000 families at an average of 270 families per village. AF is working directly with 21,400 prioritized farmer and farm labour families, including from watershed project villages, who constitute our "Primary Target community". There is also work happening indirectly with the remaining 40,600 families who constitute AF's "Secondary Target community". 35% of these 21,400 families are from SC & ST communities (who constitute 18.5% of the total district population). Another 60% are from OBC category (60% of district population). The remaining 5% are economically poor farmers from forward castes (20% of the district). Close to 5% of the target families are women headed households.

Members from the direct target communities are categorised as landless/wage labourers; farmers depending completely on rainfed agriculture; and small farmers with not so reliable irrigation facilities. These members are organised into Sasya Mitra Groups (SMGs).

Project Objective:

In total, 21,400 marginalised families improve their nutritional and livelihood security through the strengthening of CBOs, the promotion of risk mitigating sustainable agriculture practices and the diversification of their income sources.

Key Indicators:

- 30% of 11,500 project households have benefitted from the adoption of drought coping technologies/practices recommended by the project
- 50% of women of those households which adopted drought-coping technologies/practices recommended by the project have participated jointly in this decision
- 30% of young women and men provided with vocational skills by the project earn not less than Rs. 1500/- per month from home based employment and not less than Rs. 5000/- per month from outside employment.

2. Framework conditions

As has been described in AF's documents, Anantapur does appear to be a district forsaken by Nature. To an extent, it is also where people had forsaken Nature and are bearing the brunt of the ramifications. The cultivable area is 58% of the geographical area of 1.91 million hectares, with only 0.12 million hectares under irrigation (11% of the cultivable area). Vegetative cover is only 2% of the geographical area. The rest of the area is filled with barren hillocks, denuded forests and rock outcrops. The annual average rainfall is only 552mm, which does not necessarily fall as per the needs of an agricultural season. There is large scale monocropping of groundnut by farmers in the district, and this only enhances the risk of droughts. The district is chronically drought prone. There are no perennial rivers. There used to be a time when the district was dotted with tanks for irrigation and other purposes. Those tanks no longer have any water. There is serious over exploitation of groundwater. The district has gained ignominy for its farm suicides, with many farmers committing suicides unable to bear the distress any more. Governments would rather turn a blind eye to the distress and suicides than admit to it (which would be a political suicide for the party in power!). Without an acknowledgement of the deep distress all around, comprehensive action is unlikely to emerge. There are no industries and there is large scale migration witnessed in different parts of the district to places like Bangalore and Bellary in Karnataka.

During the evaluation period, it was seen that by the end of March itself, sheep herds were being taken to parts of Karnataka in search of fodder and grazing areas. Migration to other states is happening due to lack of employment opportunities locally. Because the government adopted a policy that insisted that rural employment guarantee scheme would be applied only in the case of digging of farm ponds, even this opportunity was denied to the ones who were willing to work, since there were not many takers amongst farmers (majority are small and marginal holders) for farm ponds. This meant that the poorest have no employment provided even through this Government of India scheme. At the time of writing of this report, due to pressure from opposition parties, the district administration had to relent and announce that works under MGNREGS would commence for other activities too (other than farm ponds). By this time, several households have already left the villages in search of work. Further, in the harsh sun and hardened earth, very little earnings are possible for people. Drinking water is already a major problem with people spending much time and resources to secure some water. There is a general sense of worry and concern about two more months of harsh summer staring people in their faces with the hardships only likely to increase. This is the challenging situation within which the organisation is evaluating the work in the past two years, and planning a roadmap for the next 10 years.

By the time this new phase of the project began, the erstwhile state of Andhra Pradesh was bifurcated into Telangana and Andhra Pradesh states, and within the newly formed Andhra Pradesh, Anantapur has begun receiving greater attention of the Chief Minister and others. The then Additional Chief Secretary-Agriculture, a top ranking bureaucrat in the state, took additional interest in this district, and took the help of AF-EC and other NGOs to initiate several new progressive schemes in the state. These ideas were picked up after successful piloting on the ground and lobbying by organisations like AF.

Other Organisations: There are numerous NGOs in Anantapur including the large parent organisation of AF called Rural Development Trust (RDT) which works in nearly all villages of the district. There used to be a time when there was a vibrant district level network to specifically focus on environmental regeneration in the district, for taking up social forestry programmes and organic farming. However, this network is not too active right now. Groups of NGOs have picked up different mandals of the district for implementing some progressive agricultural schemes from the Government of Andhra Pradesh, that they themselves have piloted and ensured as scaled-up

projects. Even here, well-coordinated work is missing, which could give them additional lobbying power with the government.

There are also different government agencies at work, in addition to the women's 'SHG movement' all over the district. Within the government agencies, there is the agriculture research agencies (like the local research station of the Acharya NG Ranga Agriculture University and the Krishi Vigyan Kendra of the district), the extension agencies like ATMA (Agriculture Technology Management Agency) and the department of agriculture with its Multi Purpose Extension Officers (MPEOs) cadre recently created as an innovative extension model in the state of AP, the marketing agencies like MARKFED which procure agricultural produce at Minimum Support Prices announced by Government of India etc.. It is seen that AF has a very good relationship with other CSOs as well as various government agencies and undertakes collaborative projects with all of them.

Risks and Assumptions: Given that most of the interventions assume that there will be at least some rain (to be captured in farm ponds or any other water bodies for protective irrigation, for example; for improved varieties of crop seed to be distributed to be sown after some rain, as another example; or for contingency crops to be sown with delayed rains in the month of August or September), last year (2016-17) turned out to be an unusually challenging and harsh year for the district and the project, with a prolonged dry spell without any rains at all from July onwards for several months. The dry spell lasted for a period that is equivalent to a whole agricultural season! Several interventions are premised on at least a little rainfall. In the earlier year (2015-16), when there was delayed rainfall in the season towards the end of the sowing season (August-September), the project was able to supply contingency crop seeds (horsegram and jowar) which aided in at least some fodder being harvested by participating households. This was not possible last year.

Rainfall in 2016-17
June 2016 to March 2017 (official data)

	Normal rainfall Cu mm	Actual rainfall Cu mm	Deficiency
Dharmavaram	516.4	345	-33.2
Raptadu	480.1	178.2	-62.9
Kuderu	312.1	297.6	-4.6
Settur	438.4	294	-32.9
Kundurpi	442.1	264.6	-40.1
Kalyandurg	488.4	292.8	-40
Atmakur	307.4	334.6	8.8
Beluguppa	444.3	182	-59

The other important prerequisite for full success of the project is a cadre of motivated and knowledgeable STOs who are supposed to be the frontline workers in an agriculture programme that relies as much on knowledge inputs as on material inputs. Frequent turnover in trained cadre requires repeated investments from the organisation on these frontline workers and given that agricultural operations have to happen on a given calendar in an unpredictable rainfall situation, any gap at the STO level will have its own impact on the programme.

3. Description of the evaluation and the methodology used

It is worth noting that this evaluation took place when the project is about to complete its second year of a 3-year project, that too after a severe drought year with water scarcity apparent everywhere (with rainfall failure that has not been witnessed for more than a hundred years), and is missing out on an assessment that would have been different if done after the completion of 3 years of the current phase (it can be safely assumed that projects do gather their best momentum in the third year of implementation in such 3-year projects) and the possibility of good rainfall in the monsoon season of 2017 possibly strengthening livelihoods in this drought prone district quite substantially. In a district like Anantapur where interventions in agriculture can possibly have a significant impact only once in a year (predominantly one-season, rainfed farming for a whole year with no agricultural options for the rest of the year), the second year of the project ran into unexpected adverse weather given that the season began on a very hopeful note with early adequate rains, followed by a prolonged dry spell as has not been witnessed in more than 100 years. This means that in effect, the agricultural interventions and their potential could be evaluated for only one year of this phase, given that one-third of the time left for the project is yet to commence and the previous year was a major drought year.

This evaluation has also been timed to feed into a Strategic Planning exercise that has been taken up near-simultaneously by AF-EC, as per the recommendations of an earlier evaluation exercise. This then is supposed to create a broad road map for the next 10 years.

3.1. Objectives of the Evaluation:

The following are the main objectives for this evaluation (March 2017):

- 1) To assess the relevance of the Sustainable Agriculture & Diversified Livelihoods programme in Anantapuram District, given its chronic drought-proneness, climate change, arid & semi-arid agro-climate, together with the continuing crisis in rainfed agriculture and rural distress.
- 2) To assess the efficacy of the strategies, systems and activities of Drought Mitigation Sustainable Agriculture & Diversified Agriculture.
- 3) To assess the organizational efficiency, learning and change in the past 3 years including the new initiatives and organizational development.
- 4) To assess the participatory approach and people's institutions ie. SMGs and their federations at various levels (formal & informal) and their involvement in the programme.
- 5) To assess the impact of the programme in terms of benefits to farmers in terms of their level of awareness, knowledge, skills, practice and impact of the technologies and practices of Sustainable Agriculture and Diversified Livelihoods on the farmers.
- 6) To assess the impact of other livelihoods such as vocational trainings with under-educated rural youth.
- 7) To assess the environment, gender & social equity policies in the programme with people.
- 8) To assess the role and impact of Ecology Centre in building public opinion and policy advocacy, including networking, collaboration with CSOs, academic & research organisations, Government agencies.

The evaluation was done by Kavitha Kuruganti, an experienced development worker and social activist, supported by Hrishikesh Parthasarathy (who is part of an impact assessment unit of a philanthropic foundation) who provided *pro bono* services in data analysis from the project MIS and partial participation during field visits.

The entire evaluation was sought to be done in a participatory manner that facilitates critical, reflective processes by the members of the village institutions as well as the NGO.

We would like to place on record our tremendous respect for the very open, transparent and honest processes that the organisation adopted for this evaluation.

It is also important to record that AF-EC as an organisation has been constantly reviewing and monitoring progress and lack of the same, if any. To that extent, several of the findings and observations from this evaluation have already found resonance in their own reviews and there have been some recent changes that have resulted in a spurt of activities around off-farm and non-farm enterprises.

3.2. Evaluation Methodology:

The evaluation process included thirteen intense days of the following:

- Study of available documents such as project proposal for this phase, Annual Report of 2015-16, IEC materials of the organization, website content, as well as previous evaluation report.
- Going through several village registers and records.
- Compilation of quantitative data related to achievements so far vis-à-vis targets, as put together by the organization for the purpose of the evaluation, along with reasons for under achievement, if any.
- Analysis of data from diaries to the extent possible.
- Discussions with core team (twice) and field staff (all-STO meeting without any other staff member).
- Interactions with district level officials and agriculture scientists to understand collaborations and policy influencing work of the organization.
- Visits to physical assets (tree-crop farms, farm ponds) and activities (like milk collection centre, pigeonpea procurement centre, garment making units, other micro-enterprises, bio-gas unit, research farm and machinery demonstration etc.).
- Participation and FGDs in meetings of at least one representative institution amongst the CBOs, starting from sub-groups in SMGs, SMGs of rainfed farmers and the landless, GSMS meeting, MSMS meeting, MACS, ASMS. Here, where possible, participatory self-reflective exercises were taken up with participants of the meetings.
- Individual interviews with some beneficiaries of some interventions.
- Report-writing, with the draft report shared with the Director, followed by a De-Briefing with AF's management, and then finalization of report.

The draft report was shared in a de-briefing session with the core team on 31st March 2017 and final report was prepared based on discussions in this de-briefing.

The selection of field visit sites was driven by an effort to cover at least 6 Mandals of the 8 Mandals that AF-EC works in (3/4ths of the mandals), of assessing the current stage of various institutions in the project by attending meetings of all institutions, of covering as many interventions as possible and of covering as many villages as possible to understand maximum number of interventions undertaken (the context for the same, their effectiveness and impact). The sampling was also based on a conscious effort to understand failures, constraints and shortcomings in implementation as well as successes that showcase potential that exists.

While the evaluation sought to understand some failures (like visiting a non-functioning SMG) and constraints (as in the case of STOs who were requested to state three major constraints in their work), the main effort was to focus on potential that exists, given that this evaluation is also supposed to feed into the strategic planning exercise.

As part of the evaluation, FGDs were held with members of around 20 SMGs of 14 villages, viz., Ramanepalli (Raptadu mandal), Seegalapalli (2 SMGs and GSMS, Kundurpi mandal), Devadulakonda (Belguppa mandal), Karutlapalli, Narayanapuram and Timmapuram (Kuderu mandal), Pampanuru, Gangavaram, Duddekunta, Konampalli and Seerpi (Atmakur and Kuderu mandals), Tumparathi, Pothulanagepalli and Kanumpalli (in Dharmavaram Mandal), in addition to MSMS/MACS meetings in 3 mandals (Kalyanadurgam, Kuderu and Belguppa) and ASMS meeting.

Including the trainees and employed youth on the non-farm livelihoods front, the evaluators interacted with 261 women and 167 men (this number does not include AF-EC staff members

but includes youth in vocational courses, government representatives etc.) over 7 days of field visits.

3.3. Evaluation Schedule:

Date	Activity	Villages
21-03-17	Project overview with Numbers related to Targets and Achievements: Presentation by AF members Tree Crops in 2 farms; Rainfed all-women SMG Meeting	AF EC campus Raminepalli village, Raphadu mandal
22-03-17	Farm Pond visit in 2 farms; Interaction with RFC registered as MACS; GSMS meeting; Interaction with 2 Sub Groups in another SMG.	Seegalapalli villagers, Kundurpi mandal
23-03-17	Devadulakonda SMG/RFC (Milk Collection Centre and Garment Making Unit); MSMS meeting of 2 mandals; MACS meeting of 2 mandals	Devadulakonda villagers; Kalyandurg & Belguppa mandal representatives
24-03-17	Interaction with Ananta Planter Entrepreneurs (3); Interaction with farmers who obtained Protective Irrigation (Narayanapuram and Karutlapalli); Discussion with MACS leaders, Kuderu mandal; Interaction with ST Rainfed SMG members; BC Rainfed SMG; Non-functioning SMG in Timmapuram	Karutlapalli, Narayanapuram, Muddilapuram and Timmapuram villagers in Kuderu mandal in addition to MACS members
25-03-17	Meet women Auto operators from 4 villages; Saree business in Pampanuru; Garment making and other enterprises, from Gangavaram & Konampalli; Livelihood interventions in Duddekunta; Labour SMG meeting in Seerpi	Anantapuramu, Pampanuru, Gangavaram, Duddekunta, Konampalli, Seerpi villagers
26-03-17	All STOs meeting; ASMS meeting; Interaction with employed persons through skill development in Kalyandurgam area	Kalyanadurgam field office
27-03-17	Research Farm visit; FGDs on Navadhanya and Millets programmes and other interventions in Kanumpalli; Driving School : interaction with trainees Meeting with government representatives, followed by Dinner	Tumparthi, Pothunagepalli & Kanumpalli in Dharmavaram mandal
28 to 30-03-2017	Report Writing	
31-03-17	De briefing meeting	Anantapur office

3.4. Limitations and Difficulties of the Evaluation:

- There was a general sense of despondency and despair in most people, even though people were remarkably cheerful and warm in their interactions with the evaluators. A sense of “nothing much is possible” was palpably there in many people that we met.
- The unusual nature of the previous year (2016-17) within the already harsh environs of Anantapur posed its own challenges for the evaluation to assess the full potential of the project.

- As mentioned elsewhere, the evaluation took place at the end of the 2nd year of the 3-year project and could not capture the potential outcomes and impacts from the third year of implementation. Therefore, this evaluation does not do full justice to the project.
- The evaluation field visits could not cover many more villages, given practical constraints around such travel within 7 days. However, visits and interactions were organised with all kinds of CBOs and a purposive sampling method was chosen to cover as many interventions and institutions as possible during the field visits. It is not clear if the villages visited and people interacted with form a fully representative sample of the entire project area or not.
- Not all interventions could be assessed – the potential for groundwater sharing, being done with the Government of Andhra Pradesh, to resolve the issue of protective irrigation in any significant way could not be looked at, for example.
- Given the absence of a baseline and the inability to take up any primary surveys or data collection for the sake of the evaluation, projection of benefits has to be through extrapolation from FGD information. The same has been used in this report.
- The programmatic evaluation was not accompanied by any inquiry into organisational matters as much as they impinge on the programme effectiveness or efficiency or impact. However, a little attempt has been made to understand the constraints of frontline staff who seem to be the key to effective implementation.
- The quality of data from the farm diaries was not fully reliable and an effort has been made to cull out reliable information and inferences even if the sample size or sampling is not rigorous.

4. Results

The following is the current picture after the end of the 2nd year of the project, against the project objective and indicators chosen in the project proposal.

Project Objective	Indicators	Achievement and outcome by the end of 2 nd Year
<p>In total, 21,400 marginalised families improve their nutritional and livelihood security through the strengthening of CBOs, the promotion of risk mitigating sustainable agriculture practices and the diversification of their income sources.</p>	<p>30% of 11,500 project households have benefitted from the adoption of drought coping technologies/practices recommended by the project</p>	<p>More than 3450 households (30% of 11500 households) have benefited by the end of the second year itself. Such a benefit can be measured in terms of additional yields as compared to neighboring farmers who did not adopt technologies/practices recommended by the project as well as monetary value of the same. Some of the practices and technologies focus on savings for the household in incurring out-of-pocket expenses. A few examples are illustrative of this, as given below.</p> <p>Protective Irrigation from all sources was provided to 2993 farmers in 2016-17 alone. From FGDs in several villages, it can be seen that the additional yield per acre was around 50 kilos, valued at at least Rs. 1500/-. Most households used the pigeonpea thus harvested for their own consumption, supporting nutrition security.</p> <p>Contingency crops like Horsegram and Jowar were supplied to 14000 households in 2015-16 and sown on 16,200 acres. A conservative estimate of the additional benefit from such crops was seen to be Rs. 2000/- to Rs. 5000/- per acre, where the control plot would have been a non-sown farm.</p> <p>Cycle Weeders were adopted and used by at least 750 households, due to the project (apart from many others outside the project too). This resulted in a saving of Rs. 500/- at least per acre in out-of-pocket expenses in different crops.</p> <p>Crop demonstrations related to stress-tolerant seed varieties of castor, greengram etc., gave benefits to ~6700 households over two years.</p> <p>Numerous farmers had benefited from timely sowing operations using 18 Anantha planters given by the project to MSMS for hiring out to entrepreneurs who in turn earned some income on a seed-weight basis or hourly basis by using the planter on farmers' fields. If sowing does not take place in a short time window after a sparse rain, there can be no sowing or</p>

		<p>germination expected. At a conservative 50-70 acres per planter, it is estimated that these 18 planters would have been deployed in at least 1000 acres in 2016-17, in addition to 1350 acres in 2015-16.</p> <p>Though the concept of labour exchange under “mutual cooperation” is not practised in all villages equally well, in just one village called Seegalapalli, with farmers who participated in a FGD, we estimated a savings of Rs.229,320/- in 42 acres of land operated between them.</p>
	50% of women of those households which adopted drought-coping technologies/ practices recommended by the project have participated jointly in this decision	<p>One question that we kept asking in all FGDs was around intra-household decision-making. The fact that 50% membership has been reserved for women in SMG structures, and the fact that in reality, 70% of SMG membership belongs to women, ensures that women would have participated jointly in decision-making. Some village level registers bear witness to the fact that women would have responded instantly to express their willingness to participate in particular interventions discussed in the meeting agenda. FGDs indicated that very few women will be able to take decisions on their own, and would consult their spouses in decision-making.</p>
	30% of young women and men provided with vocational skills by the project earn not less than Rs. 1500/- per month from home based employment and not less than Rs. 5000/- per month from outside employment.	<p>Vocational skills being provided at this point of time include driving (heavy as well as light motor vehicles), 2-wheeler repairing and tailoring with recent additions like mobile phone repair services and computer training. Information about imparting driving skills shows that out of 584 trained youth, 260 are employed (44.5%). FGDs show that they earn at least Rs. 6000/- per month. In all, 1353 youth (both men and women) have been trained so far in this phase, and 493 of them are employed (36%) at the time of writing of this evaluation report.</p>

4.1 Relevance

The interventions are absolutely relevant. However, when rains fail completely, there are limited feasible and affordable solutions even here, as has been witnessed last year. The relevance of individual interventions varies as per the category of CBO and as per individual household's conditions and requirements of course. It also depends on a given agricultural season and the weather conditions that prevail in that particular season.

The target group of rainfed farmers is the main focus of the project and rightly so – these households have tenuous livelihoods with high riskiness in their agricultural enterprise (such a risk is not carried by even agricultural workers who simply migrate out in search of employment), and to drought-proof their farming and reduce riskiness and costs for them is a major relevant objective for the project.

It is seen that the overall basket of measures developed/introduced by AF-EC for the uncertain and low rainfall situation of Anantapur farming is absolutely relevant and needed for the farmers of the district. However, it can be seen that farm interventions are not very relevant for the poorest landless in the district and within the project villages, landless members find that their lives are not touched significantly by these interventions. In fact, one of the interventions of encouraging 'mutual cooperation' through labour exchange has the potential to adversely impact the lives of landless agricultural workers, if not done more carefully. A village by village approach might be more appropriate for promoting 'mutual cooperation' to reduce out of pocket expenses in agriculture. For this group, more active work around off-farm and non-farm interventions is necessary.

It can also be said that not all interventions are relevant for all kinds of farmers or all kinds of years. It is understandable that specific interventions and their relevance vary from farmer to farmer and season to season. However, what is impressive is the overall basket of measures developed by AF-EC to suit diverse conditions of cultivation in the district, and this approach of keeping ready a diversity of interventions to promote is highly relevant.

While the Anantha Planter might be needed more by those farmers who do not own bullocks, the cycle weeder will not be conducive for larger land owners with limited family labour. This is known by the organisation too, and that is why some interventions have multiple versions that are suitable to different kinds of farmers (cycle-seeder, mechanised oil-engine based seeder as well as Anantha Planter are meant for different landholding classes). Cement lined farm ponds have been found to be more useful by tree-crop growers, when they were able to capture some rainfall in the ponds. Ordinary farm ponds (dug with government assistance under an employment guarantee programme) are appreciated more by farmers who have borewells and find that water recharged due to water stored in the farm ponds after good rains. Contingency crops by their very nature are deployed when rains fail in the first part of the monsoon season's sowing time, and this is needed in all those areas where rainfall has been delayed. It is seen that the 3-layered bags for seed/grain storage are useful and needed for all households. Similarly, backyard nutrition gardens are relevant for all households in the project – however, the acute water scarcity in the district has affected this intervention adversely.

The non-farm interventions so far in terms of skill-building for driving and tailoring has found good success in terms of educated/literate rural youth being employed. A few more skills have been added to this effort. There is a great demand for non-farm and off-farm livelihood options from the communities met.

Coming to the planned activities and outputs and subsequent developments in the past two years, activities related to Low Carbon Farming seem irrelevant with the evidence that emerged to show that the recommended package of practices does not lead to significant decline in carbon emissions in rainfed groundnut cultivation.

4.2 Effectiveness

The evaluation sought to assess the effectiveness of particular technical interventions (for drought proofing and drought resilience) as well as strategies for awareness-generation and capacity building, organising of the community and policy advocacy. This is presented in different sections as: 4.2.1.i Livelihoods: Achievements vis-à-vis project proposal; 4.2.1.ii Achievements with revised targets; 4.2.1.iii Evaluator's assessment of efficacy from FGDs; 4.2.1.iv Community leaders' assessment of efficacy; 4.2.1.v Analysis from farm diaries; 4.2.2. Effectiveness of Monitoring; 4.2.3. CBOs and Institution Building; 4.2.4. Policy Advocacy; 4.2.5. Social Equity and Gender.

4.2.1.i. Sustainable Rural Livelihoods:

The following is the picture after completion of two years of the current 3-year phase of the project, vis-à-vis commitments made in the project proposal.

TARGETS VS. ACHIEVEMENTS VIS-À-VIS THE PROJECT PROPOSAL

	Target (2015-17)	Achievement (2015-17)	Remarks
SUSTAINABLE AGRICULTURE & POLICY ADVOCACY: Demonstration on SA Cropping Systems & Practices			
Crop Demonstrations in Rainfed Farms & Chemical-free Demos in Irrigated Farms	15170 Nos	8857 Nos	The focus of Demo plots shifted from cropping systems demos to crop varietal demonstrations and therefore, there was a scaling down in the target. 58% achievement by end of 2 nd year, with lack of rainfall being the main reason for not being able to sow and set up these Demos.
Fodder Development	200 Hectares (300 Ha as per the proposal, for 3 years)	74 Hectares	37% achievement-lack of rainfall as well as awareness about <i>Stylosanthes hemata</i> fodder species contributed to under-achievement.
Tree Crop Models	260 Ha (60 Ha of new plantation and 200 Ha of existing plantation)	200 Ha	Watering and gap filling support provided to existing 200 Ha and no new area was taken up given the adverse weather conditions
Backyard activities for nutrition development	6900 kitchen gardens, 600 families for backyard poultry & 2300 families for backyard horticulture (for 3 years)	6400 kitchen gardens and 250 families for poultry	Backyard horticulture not taken up due to acute water scarcity
Promotion of drought mitigation technologies: 12 Planters for custom hiring	8 planters under RFCs and 12 planters under drought mitigation were proposed	8 Nos. purchased in 2015-16 used on 1350 acres in 2015-16 and an estimated 800 acres in 2016-17.	In all, 18 planters are used in the project area now.
Farm Pond Lining for PI	160 farm ponds for 3 years, as per proposal	177 Nos. so far	The adoption of lining of farm ponds as a technology is picking up gradually with NREGS works being linked only to digging of farm ponds at this point of time.
Piloting Low Carbon Farming	1500 farmers	Not done	This has been abandoned given that no significant emission reductions were detected by adoption of our PoP in rainfed groundnut.

Piloting Rainfed Farmers' Cooperatives (RFCs)	8 Cooperatives, as per proposal	8 mandal level MACS established	8 mandal level MACS got registered as FPOs.
Protective Irrigation	120 hectares as per proposal	1200 Ha by the project	This has been the most needed and popular intervention last year and got scaled up ten-fold, far beyond plans. Another 1610 Ha of PI was taken up by farmers themselves at their own cost.
Public opinion building: Campaigns	30 campaigns for 3 years, as per proposal	25 campaigns conducted in 2 years	10 campaigns on Women's Day, 2 on "Combat Desertification Day", 1 on World Water Day and 12 on mango productivity enhancement
ALTERNATE LIVELIHOODS: Trainings to Rural Youth			
Driving	790 youth for 3 years (460 for 2 years), as per proposal	584 youth trained	3-wheeler/auto training and 2-wheeler repairs introduced.
Tailoring/Garment Making	800 women for 3 years as per proposal	628 trained	Remaining to be covered in the coming year.
Women micro-entrepreneurs	4 units as per proposal	36 Nos.	Single women have been identified and supported under this.
Vocational trainings in other training institutions	1000 youth in 3 years as per proposal	212, out of which 75 are employed	128 in 2015-16 and 84 in 2016-17
Job melas for rural youth	900 youth in 3 years (600 in 2 years)	561	93.5% achievement
INSTITUTION BUILDING			
Strengthening of CBOs	Regular meetings on a monthly basis upto MSMS level	80% of meetings conducted at all levels	STO turnover affected the full achievement of the target
Capacity Building of CBOs	7360 FFS sessions and other trainings	932 FFS sessions, 86 trainings and 462 village level campaigns conducted in 2 years	FFS sessions are now conducted at cluster level

4.2.1.ii Achievements, based on emerging needs

The following is the picture with regard to specific interventions, based on the emerging needs from the villages.

SUSTAINABLE AGRICULTURE	Units	Target	Achievement	%age
Village campaigns on sustainable agriculture	Campaigns	920	462	50

Trainings on sustainable agriculture & Leadership	Trainings Nos	176	86	49
Crop demonstrations (kharif)	Acres	12770	6700	52
Farmer Field Schools	FFS Nos	1436	932	65
Chemical free crop demonstrations (rabi)	Acres	2400	2157	90
Sowing with Anantha Planter	Acres	NA	2150	
Cement lined farm ponds	Nos.	160	177	111
Protective Irrigation (all methods)	Acres	288	2880	1000
Contingency crops	Acres	NA	16410	
Fodder Development	Acres	500	185	37
Cycle Weeders	Number	800	760	95
Poultry	Families	400	250	62.5
Kitchen garden	Families	2300	6400	278
Row Water Sowing	Acres	NA	640	
Sub-soiler	Acres	NA	250	
Tree crops gap filling	No. of plants	20000	18320	91.6
3 Layer Bags	No. of Bags	NA	12220	

Several planned activities could not be taken up due to rainfall failure and an unusual prolonged dry spell, whereas there were intense efforts put in to salvage at least some crops from completely drying up, through protective irrigation from any means possible.

When it comes to Alternate Livelihoods, the following is the picture of achievement vis-à-vis the targets set by the organisation.

Alternate Training Courses for Vocational Skills	2015-17				
	Target	Achievement		%age	Employed
		Male	Female		
Driving (Auto/3-wheeler)	20	0	19	95	12
Driving (LMV)	240	400	60	192	183
Driving (HMV)	120	97	0	81	60
2 Wheeler Mechanism	20	8	0	40	5
Tailoring	88	0	628	714	278
Vocational courses (computer training & mobile servicing)	176	33	12	26	17
Entrepreneurs	100	28	68	96	36
Total Employment through job fairs	1200	64		5	392

4.2.1.iii Evaluator's Assessment of Effects and Outcomes

It is interesting to note that while project activities may not have been implemented completely as per plan/proposal, the intended outcomes have been largely achieved in terms of benefits to participating farm households and in terms of organising community members into CBOs.

The project has been effective in creating awareness and knowledge amongst its SMG members as well as others about the need for climate resilient low external input sustainable agriculture practices by adopting a variety of means. These include diversity-based cropping, suitable crop varieties to be sown, seed self-reliance, bringing down cost of cultivation by reducing out-of-pocket expenses including on weeding and harvesting labour costs, establishment of tree crop models etc. During the last year, it has also effectively created a demand for protective irrigation from whatever closest source of water exists for a given farmer. Earlier, it was unthinkable that a crop could be saved by taking water tankers to the fields and watering the crop plants or tree plants in the absence of rains and in prolonged dry spells. Drought-proofing technologies of row water sowing, sub-soiler, Anantha Planter, lining of farm ponds for protective irrigation etc., are all gaining popularity and acceptance amongst the farmers as well as policy-makers now.

In terms of being able to assess or measure effectiveness, interactions with community members expectably revolved around the most recent year of cultivation (recall value of the same being higher) and here, protective irrigation was repeatedly scored as the most effective intervention. Given the long dry spell in last Kharif (2016), such protective irrigation to crops like Pigeonpea and Castor, with one or two tankers of water provided per acre of land, resulted in at least some crop being harvested compared to neighboring plots which yielded nothing. Field interactions (with its own limitations of sampling and sample size not rigorously picked up) point to around Rs 1500/- being the additional gain (this is a conservative estimate, of around half a quintal of pigeonpea, measured at low market prices that prevailed in a glut year) by farmers due to provision of such protective irrigation. Such pigeonpea was mostly kept for household consumption by the participating farmers. This could be gleaned from FGDs with members of SMGs from Karutlapalli, Narayanapuram, Ramenapalli, Tumparathi, Pothula Nagepalli and Kanumpalli. When it comes to another intervention of "Contingency crops" (seeds of particular crops like horsegram and jowar when rains fail during the main planting time window), the benefit is seen to range from Rs. 2000/- per acre (horsegram) to Rs. 5000/- per acre (Jowar, mainly as fodder).

In the case of Navadhanya programme where the government supports supply of seeds of 9 different crops keeping in mind the need for diversity for resilient farms as well as steady source of employment and income in a staggered fashion for a full 6 to 9 months, it is seen from FGDs that some farmers obtained an additional income of at least Rs. 1860/-, compared to groundnut farmers.

The involvement of SMG members and their institutions in programme designing and implementation has been increasing only recently. The agenda in various CBO meetings is mostly driven by the project staff. In the recent past, efforts are being made to draw out members and place their agendas into the discussions. The possibilities with agri-entrepreneurial activity are seen to be motivating many CBO leaders at the MSMS level and they are now trying to take the FPO work forward in a more active manner. Similarly, ASMS members have been actively demanding for a few things from the organisation, influencing the programme thrust as per their felt needs. This is seen in the case of increased emphasis on Protective Irrigation last year (2016-17). They are not only putting forward their issues in front of the NGO, but also trying to do the same with concerned government agencies. Department officials are invited to ASMS meetings, both for learning about various government programmes and schemes and also to bring to the notice of the officials pressing issues on which ASMS members are concerned about.

In this evaluation process, we sought to adopt participatory processes to involve community members in assessment of efficacy of interventions.

4.2.1.iv Community Members' Assessment of Effectiveness (in terms of benefit accrued) of interventions

We took up participatory ranking exercises for eliciting views of MSMS/MACS leaders in 3 mandals (Kalyandurg, Belguppa and Kuderu) for assessing efficacy of particular interventions. This involved a collective recall of various interventions that members were aware of, and then ranking of the same. We also repeated the exercise with frontline workers of the project (all STOs meeting). Additionally, the outcome assessment done by the core team of the organisation in a self-reflective process is given as an annexure (Annexure 1).

Kalyandurg MSMS: The Top-5 interventions, as per MSMS leaders of Kalyandurg (based on benefit accrued) is given below:

Mixed group (men & women together)	Men only	Women only
Protective Irrigation: 1	Protective Irrigation: 1	Protective Irrigation: 1
Farm Pond Lining: 2	Farm Pond Lining: 2	CMSS: 2
Sprinklers: 3	Sprinklers: 3	Navadhanya: 3
Tree Crop: 4	Tree Crop: 4	Poultry: 4
Navadhanya: 5	Navadhanya: 5	Tree Crop: 5

When it came to non-farm livelihood, most men and women (22) ranked Sheep Rearing as the most important enterprise, followed by milch animals (11). Tailoring was listed by 5 women and 2-wheeler mechanic by 1 man.

In terms of institutional performance, an exercise based on show of hands was taken up to find out which institutions are found to be effective by MSMS leaders – there were 17 women and 23 men who participated in this exercise.

Institution Name	Number who thought it was effective		%age who thought it was effective	
	Women	Men	Women	Men
Sub Group	12	17	71	74
SMG	14	21	82	91
GSMS	15	19	88	83
MSMS	13	13	76	57
ASMS	10	6	59	26

When asked to discuss about institutions as per their importance, everyone thought that MACS was the most important institution.

When asked about their top “asks” or grievances, the MSMS leaders brought up the issue of delays in services. They gave a few examples of Protective Irrigation and cement lining of ponds done too late. There was also a view that CMSS should be expanded to all villages. There was also an emphasis on the need for a big thrust on non-farm livelihoods. Anantha planters not being available when needed was raised as an issue. Linking NREGS to agriculture and expansion of tree crop plantations were the other issues raised.

Beluguppa MSMS members: An exercise of asking MSMS members what interventions have been taken up in their respective villages by the project, and after a listing of such interventions, dividing them into 4 parts was taken up. The four kinds of interventions were: (a) for farming; (b) for off-farm and non-farm livelihoods; (c) different kinds of institutions; and (d) for awareness and knowledge building. Subsequently, going item by item in each category of interventions, we asked participating members to raise their hands if they thought something was very effective and needed to be taken to most farmers. We kept reminding them that they should keep the relevance as well as efficacy in mind for most farmers in their areas and not simply say that all interventions should be taken to all members. Between the four categories,

majority of the participants felt that off-farm and non-farm interventions should be given utmost priority for their potential to support livelihoods.

Farm Interventions	Off/Non Farm /Other	CBOs	Capacity Building Tools
1. 3-layer bags (25 participants) and Contingency Crops (25 participants)	1. Thrift & Credit (32 participants)	1. SMG (25 participants)	1. Exposure visits (27)
2. Protective Irrigation (20 participants) and Farm Pond Lining (20 participants)	2. Mutual Cooperation (27 participants)	2. FPOs (20 participants)	2. FFS (19)
3. Demo Plots (18 participants)	3. Revolving Fund (21 participants)	3. MSMS (19 participants)	3. Meetings (18)
4. Cycle Weeders (10 participants)	4. Dairying and 2-wheeler repairing (20 participants each)	4. GSMS (17 participants)	4. Trainings (5)
5. Tree Crop (6 participants)	5. Sheep Rearing and Micro-Enterprises (19 participants each)	5. Sub-Group of SMG (9 participants)	
	6. Backyard poultry (13 participants)	6. ASMS (8 participants)	

Kuderu MACS leaders gave the following rank to various interventions that they listed:

No.1: Protective Irrigation, Farm Pond Lining, Anantha Planter, Driving skill building, Contingency Crops, Tree Crops and Mutual Cooperation

No.2: Row water sowing and Demo Plots

No.3: High quality timely supply of seeds through various programmes including Navadhanya, CMSS etc.

No.4: FPO

4.2.1.v Outcomes as per the Farm Diaries maintained

Row Water Sowing: Data for 84 diaries was shared by the organization for one year (data unavailable/not collected for two years) – out of these 84 diaries, control plot information exists only for 48. Row Water Sowing has not worked for farmers in this year at all, they have lost more even compared to control plots. Having said that – this was a very difficult year, and row water sowing benefits will be felt only in years where there is rainfall after germination too. In the toughest years, the investment costs taking a chance on later rains may result in increased losses. Table below shows Row Water Sowing Net returns for mandals with sizeable sample, where material interventions took place.

Mandal	# Interventions	Intervention Plot Net return Rs./acre	Control Plot Net return Rs./acre	Difference Rs. Gain/Acre
Kundurpi	20	-9965	-9121	-844
Kalyandurgam	15	-13329	-8420	-4909
RAPTHADU	7	1954	-24	1979
Grand Total	42	-9180	-7354	-1826

Demonstration Plots:

Data for 583 acres was provided. Data is not available for multiple years and hence, is not representative. Out of 583 diaries, control plots exist only for 355 diaries. Demo Plots have reduced farmer losses in the intervention areas when compared to control areas. Having said that – this was a very difficult year, and both intervention and control plots resulted in negative net returns for the farmers. Demo Plots helped to reduce the quantum of losses significantly.

		Intervention Plot	Control Plot	Difference
Mandal	# Interventions	Net return Rs./acre	Net return Rs./acre	Rs. Gain/Acre
ATMAKURU	50	300	-3076	3377
Beluguppa	74	-3610	-10448	6838
DHARMAVARAM	19	56	-5952	6008
KUDAIR	43	-2166	-4901	2735
Kundurpi	66	-5282	-9103	3821
RAPTHADU	12	1933	-8251	10184
Setturu	90	-2601	-13138	10537
Grand Total	354	-2553	-8850	6298

Protective Irrigation:

We have data for 223 diaries. Data is not available for multiple years, hence is not representative. Out of 223 diaries, control plots exist only for 135 diaries. We have considered below 125 diaries with control comparisons (excluding some villages which had very single digit interventions).

Protective irrigation has reduced farmer losses in the intervention areas when compared to control areas. Having said that – this was a very difficult year, and both intervention and control plots resulted in negative net returns for the farmers. Protective irrigation helped to reduce the quantum of losses significantly. Intervention plots yielded net returns of (-Rs.2255/acre), compared to control plots which yielded (-Rs.6592/acre).

		Intervention Plot	Control Plot	Difference
Mandal	# Interventions	Net return Rs./acre	Control Net Rs./Acre	Rs. Gain/Acre
Setturu	41	-406	-7251	6845
ATMAKURU	29	-2275	-3376	1101
Kundurpi	40	-3080	-7497	4417
Beluguppa	15	-5073	-5639	566
Grand Total	125	-2255	-6592	4336

4.2.2. Effectiveness of Project Monitoring:

One of the questions explored under effectiveness was to see if project monitoring was effective and if it was able to make changes in project implementation. It is seen that the PME unit was not able to perform all its functions effectively given that there was a turnover in the team and not all posts could be filled. On the other hand, project monitoring in terms of process indicators was taken up quite systematically since the monthly review meetings are as per prescribed formats along an annual agricultural calendar.

AF has a strong case to re-build the entire PME function effectively. The PME has been in a fluid state with changing teams, leaders and roles for a few years now, it is noted. Other functions like HR and government programmes are being handled by PME team members. Overall, though

the importance of rigorous evidence-building is recognised by the management, there has been a weak culture of such evidence-building. Such evidence building has to be dependent on data sources other than diaries alone. For instance, adoption data is not captured in the diaries. Seed indents are one way of capturing demand for a seed that has been supplied in Demo plots, for example. However, this data is not readily available. Similarly, adoption of PI outside the SMGs.

Diary management has been poor and data quality is not reliable, even though diary designs in a comparative framework have been well thought out. It is unclear how effective a role do the ATLS and AEOs have in diary maintenance and evaluation, as well as using diary data inferences for discussing a particular technology/practice and its efficacy in the SMG meetings. It is seen that no systematic analysis has been made and fed back to the field from the farm diaries, so that wider adoption can ensue. Diary system has to be based on rigorous sampling and minimum sample size, for higher data quality maintenance.

Moving ahead, there is a strong case for separating the PME function from any other roles and responsibilities. It is important that the organisation's leadership drives down a strong message around the importance of evidence-building, learning for course corrections if any as well as for policy influencing. Verdentum is nearly in place and the evaluator had a chance to interact with team members of Verdentum. It will certainly help in real-time monitoring of progress of activities and capture several implementation parameters. However, it is clear that this will not be able to assess effectiveness or impact. Diary system coupled with well chosen parameters for adoption for each technology and practice being promoted and reliable data collection methodologies for the same, should be able to assist management decisions and actions related to programmes. PME team could be leaner (one team leader and 2 associates) but needs to be on the job full-time. PME processes could capture larger change in a periodic fashion through various methodologies, as has been done in December 2016. There have been some recent discussions about some changes in project implementation because of findings from monitoring visits with the help of CBO leaders. This is of course a healthy and sustainable approach, moving forward.

4.2.3. CBOs created

CBOs starting from the SMGs have been in a state of transition. It appears that the project has been able to draw in around 18.7 thousand families into the fold of 809 SMGs. The focus on some RFCs has rightly shifted towards MACS which would also allow for economies of scale for an enterprise. SMGs can still leverage bank financing as JLGs with the careful record keeping that is being facilitated by the organisation and its STOs. It has to be ensured that all members obtain membership of the MACS too. The organisation needs to look into declining attendance/participation in some SMGs as reflected in the minutes books. After getting into thrift and credit activity, members find a more binding activity that brings them together into monthly meetings. The agendas are mainly driven by the organisation, sometimes in a routine fashion by the STOs. It is seen that there is not enough discussion on results of works already taken up.

There has to be a slot created for members' agendas in each meeting – technical information sharing as well as latest developments from the external world (government policy announcements, schemes, Supreme Court Orders etc.) can also be attempted in each meeting. MSMS members should be given a specific speaking slot to bring back discussions from the mandal level meetings into the SMGs.

It is apparent that when more activities are taken up by more members (it is a matter of agendas being more relevant as well as spreading the limited number of interventions to most members without many kinds of support going to the same limited number of members), their sense of ownership over the institutions will increase. The following is the current picture with regard to village level CBOs.

Village level CBOs:

Areas	Clusters	Mandal	GSMS	SMGs	Membership
Dharmavaram	11	Dharmavaram	37	181	2383W+1727M
		Rapthadu	17		
Atmakur	10	Atmakur	20	163	2311W+1356M
		Kuderu	22		
Kalyandurg	13	Kalyandurg	33	225	3622W+1705M
		Beluguppa	20		
Kundurpi	12	Kundurpi	36	240	3967W+1701M
		Settur	24		
Total: 4 Areas	46 Clusters	8 Mandals	209 GSMSs	809 SMGs	12283W+6489M

It is seen that there are 809 SMGs formed, covering 18772 households. Within the SMGs, women represent their households in 65% of the membership. About 16% of the SMGs are irrigated SMGs (including groundwater sharing programme) and 14% are Labour SMGs. More than 250 SMGs seem to be all-women SMGs. There is one Single Women group of 10 members in one village. Thrift and credit activity has been taken up in 799 SMGs at the time of writing of this report (98.8% groups).

CBO Name	Numbers functional	Membership
Sasya Mitra Groups (SMG)	809	18772 households, with 70% members being women
Grama Sasya Mitra Samakhyas (GSMS)	209	1618 members, with 60% being women
Mandala Sasya Mitra Samakhyas (MSMS)	8	416 members, with 54% being women
Athyunnatha Sasya Mitra Samakhya (ASMS)	1	53 members, with 32% being women
Registered Mutually Aided Cooperative Societies (MACS)/FPOs	16 Registered FPOs (8 Mandal MACS; 6 NABARD MACS; 1 RFC in Seegalapalli; 1 Seed Cooperative in Palavai)	Membership with Rs. 100/- share capital touched 7170 households by March 2017 in 8 Mandal MACS. This is 38% of existing SMG membership. 6 NABARD watershed village MACS membership: 1239, incl. 370 women (about 30%)

The focus on a few SMGs as RFCs could potentially lead to inter-group tensions as was witnessed by some members' comments during the visit to Seegalapalli. A member from another SMG in the same village was very disillusioned by the extra efforts being put on the RFC, and wanted to know why they were being discriminated against, even though he had been associated with RDT for more than 3 decades now. A systemic solution like scoring of SMGs for decisions on interventions to be made might have to be evolved soon.

4.2.3 Public Opinion Building and Advocacy:

AF-EC's successful advocacy with government (in several cases, along with other CSOs) is apparent from large scale programmes being initiated by Andhra Pradesh government for local groundnut seed production and distribution (Community Managed Seed Systems or CMSS), promotion of diversity-based cropping through the Navadhanya programme, revival of millets cultivation and consumption, tree crop integration with dovetailing from NREGS programme, farm pond lining for greater storage of water for protective irrigation etc. Work on this front has encompassed agriculture research to extension to new programmes being grounded by the government. The much-publicised emphasis on protective irrigation by the AP government during the peak of the dry spell last year with the Chief Minister himself camping in Anantapur for this purpose is in a sense the fruition of the efforts of AF-EC.

An interaction with research scientists and agriculture department officials as part of the evaluation process revealed that AF-EC has been very successful in collaborating with both research and extension agencies, to influence new research innovations on the one hand (mainly related to agricultural machinery improvisations for protective irrigation) and to implement mainstreamed innovative schemes and programmes based on LEISA principles. The presence of Dr Yellamanda Reddy, a retired senior agriculture scientist as the head of the sustainable agriculture component of the project has meant that such collaborations have increased with other agriculture scientists further.

The long-pending demand for filling village water tanks (ponds) with water from a river water canal is being met here and there, and this has now become a political demand from the communities in the area. This could then be a more impactful solution, provided that supply of such water does not lead to large scale unsustainable High External Input Destructive Agriculture.

AF-EC's collaboration with AP government is visible in the initiation of two large scale programmes about to be rolled out – Zero Budget Natural Farming (ZBNF) with Government of India funding, and a new programme called Andhra Pradesh Drought Mitigation Programme with IFAD funding. Several of the above-mentioned initiatives reached their fruition in the current phase.

4.2.4. Social Equity & Gender Focus In The Interventions

While a picture of caste-wise membership of SMGs does not exist readily in the organisation, the following illustrations with data culled out where available do point to social equity concerns being addressed to a large extent, but also the need to have a sharper focus on the same.

This was more apparent in the participation of members in the field visits. The landless had some share of the benefit only in cases where they were working on leased lands. In mixed groups, it was BCs and OCs who were more active in their participation in the FGDs.

In the recent past, the organisation has begun some initiatives for micro-enterprises with landless single women, by carefully selecting the most marginalised amongst its members.

Activity	Who did it reach mainly?
Kharif Demonstration Plots on rainfed crop varieties, crop rotation and crop diversification	<u>2015-16</u> :- SC/ST: 54%; BC: 35.5%; OC: 10.5% <u>2016-17</u> :- SC/ST: 59%; BC: 26%; OC: 12%; Women headed HHs: 3%
Chemical Free Crop Demonstrations (Rabi)	<u>2015-16</u> :- SC/ST: 63%; BC: 28%; OC: 9% <u>2016-17</u> :- SC/ST: 69%; BC: 22%; OC: 7%; Women headed HHs: 2%
Protective Irrigation, all methods	2016-17: SC/ST: 68%; BC: 27%; OC: 4%; Women headed HHs: 1%
FFS sessions at cluster level in 2016-17	Women's attendance: 65%

Anjanamma is a dalit single woman from the Cooli SMG in Duddekunta village of Belguppa mandal. She is also landless. She recently took a loan of Rs. 5000/- from the organisation, which is to be repaid in 12 months' time. With this amount, she brought things to sell from her brother-in-law's *paan* shop. Here, she stocks some edible products like vegetable oils and grains, betel leaves, cigarettes and *beedis*, in addition to shampoos, toothpaste, diapers etc. She also has many kinds of toffees and biscuits to sell to children. She does not have to pay any rent to her brother-in-law as of now. Her son occasionally helps her with the enterprise. Her daily turnover is Rs. 1000/- out of which 200/- rupees is her profit. She said that she wanted to make sure that the SC colony to which she belongs has a shop that is accessible to them more easily and that is

how she thought of this enterprise. She did not find NREGS helpful – payments have been pending for more than 2 months in this village.

The apex community institution that is expected to guide the organisation in its work, and also be the people’s institution in taking forward advocacy agendas with the government is the ASMS. The following is the constitution of ASMS where unexpectedly, men have a larger space unequal to women, and SCs have lower representation (the decreasing space for women is seen at each level of federated institution, in fact). Only one landless person is part of the ASMS. This would be an area of concern, if ASMS is not re-structured to reflect social equity priorities of the organisation and if the leaders are not sensitive to such concerns. In an FGD with ASMS members, members insisted that the organisation’s intervention reaches equally to all communities while that is neither the reality nor the social equity need.

Constitution of ASMS (Total members 53)	
Institutional Representation	MSMS: 41 (77%); Watershed Development Committees: 10 (19%); Progressive Farmers: 2 (4%). Only 1 represents SC Labour group. 36 represent Rainfed Groups, apart from 17 from WDCs, RFC, VO etc.
Gender Profile	Women: 17 (32%); Men: 36 (68%)
Caste Profile	SCs: 10 (19%); BC: 27 (51%); OC: 16 (30%)
Village background	48 villages, 11 Mandals (11% of project villages, but all MSMSs)
Age Profile	Below 40 years: 17 members (32%); >40 years and <60 years: 32 (60%); > 60 years: 4 members (8%)

Gender: When it comes to gender inequality, it plays out in very subtle ways. The organisation has been sensitive to this, though some gaps still exist.

The organisation put into place an affirmative policy for women in all its institutions. At least 50% space was reserved for women, with the leadership in the form of Convenorship of CBOs kept in the hands of women. In reality, wherever STOs found men too dominating and interfering with women’s spaces in SMGs, they converted those SMGs into all-women groups, and today, the fact is that the project has 65% women’s membership and not just 50%. There seem to be more than 250 all-women SMGs. However, at the MSMS and ASMS levels, women are not equally represented. This needs to be looked into – glass ceilings are known to exist for women everywhere when it comes to top positions and institutions.

The organisation had an indicator in the project proposal, to have “50% of women of those households which adopted drought coping technologies recommended by the project have participated jointly in this decision”. During the evaluation process, we kept asking a hypothetical question to men and women participants in all FGDs: “We have brought new varieties of seeds to give your family – would you take it now, or would you have to consult your spouse and then decide?”. A majority of women said that they will not only have to consult their husbands but also their parents-in-law if the farming was being done jointly. An overwhelming majority of men said that they will take the seed and that they don’t have to consult anyone in the family since this decision belongs to them. We tried variants of the same question – if we give free protective irrigation, will you take it? If we asked you to pay a small contribution from your side to a heavily subsidised input, will you take it? If we give chickens for backyard poultry, will you take it? If we give seeds for kitchen garden, will you take it? If called for a training, will you come? etc. etc.

The nuanced way in which the limited autonomy of women plays out became apparent : when it comes to even free inputs, they will have to ask for permission before accepting. When it comes to even small payments as their contributions, even the women who said they will accept, said that they will have to consult their spouses in such a case. Only for those activities like nutrition gardens, where it is seen to be a woman’s domain completely, did all women seem to have the

autonomy to take their own decision. When the evaluator pointed out that in some meeting minutes registers, she had seen women members respond instantly to requests to enlist themselves for Demo Plots or other interventions of the organisation, the members responded by saying that even if they get their names listed, they actually accept the benefit only after consulting with their spouses.

While the above is about decision-making autonomy for women, it was also noted that participation in discussions was quite free without much social inhibitions. A large proportion of women felt free to express their views and experiences. While this may be so, the organisation has to watch out for gender-based undercurrents in all the interventions.

Even in a RFC like Devadulakonda where the women are quite vocal and the Convenor of the group Kullayamma is quite empowered, it was seen that in the newly set up milk collection centre, the fortnightly payments for milk sales to the collection centre by members was not always going to the women members of the SMG. It was being paid to their spouses! This was happening in spite of the fact that in all cases, the local bank gave a loan in the name of the woman and it was the woman who was responsible for the repayment. Instances like this occur because the concepts of equality and empowerment of women have not been internalised fully by the members themselves as well as the organisation's cadre of workers.

It is apparent that even in an institution with affirmative equal spaces created structurally for women and even leadership kept in the hands of women, autonomy related to decision-making does not come by itself just by representation. More dialogues and breaking of socialisation norms are required with both men and women so that both sexes represent their households in an empowered fashion in the CBOs. In this case, the organisation has to work either towards empowering women members to have enough autonomy to take a decision on behalf of their household, or get the male members to move towards joint decision-making with their spouses. The latter might be a more pragmatic objective, even as various ways and means to increase the autonomy of women are adopted.

For effective participation of women members in the CBOs, an enabling factor would be women in the frontline staff of the organisation. It is commendable that the organisation has managed to have near-equal number of women in its frontline staff.

The following is the gender composition of the staff of AF-EC at all levels:

Staff Cadre/Level	Women	Men	%age of women
STOs	27	29	48%
AEOs	2	4	33%
ATLs	1	3	25%
Central	5	44	10%
Overall Project	35	80	30%

Almost all women STOs in an exclusive meeting with them expressed their difficulty with late evening meetings of SMGs/GSMS and transport-related hardships. This is something that the organisation might have to look into to see what possible solutions might emerge here.

4.3. Efficiency

The efficiency of interventions was difficult to assess in its fullest manner. However, going by the fact that proper systems are in place at all levels, it can be said that serious thought has been given to such efficient functioning. For instance, printed annual calendars exist of topics to be discussed in CBO meetings at different times of the year, based primarily on agricultural operations. This then helps in a situation where frontline workers' turnover is quite high. Punctuality of all staff members in different meetings, during the evaluation and even otherwise, is another indication of some efficient systems being followed, unlike in many NGOs in the

country. The way the campus and offices (Kalyandurg and Anantapur were visited) are maintained is another indication of systems being in place everywhere to ensure efficient functioning. Set formats for monthly reviews in all-Staff meetings facilitate efficient monitoring, as another example. Despite all of this, the organisation's efficiency is impacted by high staff turnover at all levels, and this seems to be both because of the nature of work in the organisation and also extraneous factors beyond the control of the project/organisation including the aspirations of young educated people in the area.

4.3.1. Staff Turnover: Data with regard to staff resignations and recruitments in the two years of this phase showed that there is about 35% to 40% turnover at STO level annually. This is quite significant, given that capacity-building that happens at that level has to be repeated all over again with a new recruit. Staff turnover exists at other levels too: about 15% at AEO level; 25% at ATL level and 14% at Central Office level with the overall annual turnover being ~22%.

It is worth noting that significantly lower number of women had left their jobs at all levels in the organization when compared to men.

STO Turnover: STO level attrition rates are quite high. There is a great need for putting into place a frequent system of induction. The turnover has been very high in this phase's two years too. In the earlier phase itself, after a careful analysis of the main reasons for such high turnover (attributed to daily travel, heavy workload with a coverage of about 8 villages per STO, young graduates looking for jobs in urban areas and increased cost of living), the STO operational area was reduced to a cluster of 5-6 villages; minimum qualification for STO was brought down to Intermediate (High School + 2 years of education); and compensation package was revised to account for increased cost of living. However, this continues to be a major problem.

During this evaluation process also, information about the main constraints for STOs was sought to be collected, and the following were the main constraints or problems faced by STOs, as reported by the largest number of STOs:

- Low remuneration
- Late hours of work, especially for women, during SMG/GSMS meeting days
- No induction or special trainings for new recruits
- Conveyance or travel difficulties between villages
- Information reaching STOs at short notice for various activities

It is apparent that the quality of work and achievement of plans will certainly depend on the frontline workers and their performance. For this, it is recommended that a "STO Pool" be created with at least 10 STOs kept on the standby at any point of time, with the recruitment being contingent on them agreeing to work in any area that they are posted. These standby STOs can be inducted and used by PME and research team for data collection as and when required when they are not assigned any particular clusters.

Salaries might also be increased for these STOs if required and the donor organization has to look into this realistically. India's minimum wages for unskilled workers are now at Rs. 334/day (basic rate in addition to special allowance/variable dearness allowance) for clerical work in the field of agriculture (January 2017 notification by Government of India's Labour Ministry). Based on STO salaries, other salaries might also have to be increased proportionately across the organisation.

4.3.2. Timely execution of plans: Amongst the other factors seen for lack of maximum results is lack of timely execution of plans, which obviously will affect any agricultural programme, given that farmers have to perform timely operations based on the agricultural calendar and erratic rains. This was reflected in village registers, for instance, where members were seen to respond to several proposals by saying that they had already sown their crop and cannot therefore opt for a Demo Plot or a seed variety. This was also something that came up in FGDs in SMGs as well as MSMS meetings, that information and inputs have to reach members on time. This was something emphasized repeatedly in the STOs meeting that most plans are being

executed within very short notice. On the other hand, the organization also finds that people who enlist themselves for particular interventions also change their mind depending on how the season unfolds for them. The organization might need to look into this, especially given that rainfall pattern is highly unpredictable.

4.3.3. STO handholding: It is not clear that ATLS or AEOs or even PME team members are able to support STOs in efficient discharge of their duties, especially given that systemic and frequent induction programmes are not in place, to match the attrition rates at STO level. It is not clear if AEOs and ATLS are required to spend more time with new recruits, inducting them into the job. It has been seen in many meeting registers that STOs try to run the meetings in very lackadaisical and almost irrelevant ways, blindly following a routine agenda. An example to illustrate is a “youth survey” and enlisting of single women for micro-enterprise support in villages like Karutlapalli and Narayanapuram, as reflected in the diaries. It does not appear that the AEO or ATL helped the STO in this task even though it was put into the agenda at least in 5-6 meetings with no apparent response from the community.

4.3.4. Cost Efficiency: In the project, Sustainable Agriculture interventions take up 55% of the budget, while diversified/alternate livelihoods constitutes 7.3%. Clearly, the alternate livelihoods intervention is more cost-effective, in relation to the outcomes for the community. However, it is also apparent that it is not easy to cater to larger numbers in the alternate livelihoods intervention.

Within the Sustainable Agriculture interventions, Demonstrations had the highest budget allocation (10% of the phase budget and 18% within SA programme budget). In the recall methodology based FGDs that were taken up with community members in various villages, these did not feature on top in terms of efficacy. The farm diaries also reflect somewhat poor results on this front. This could be because of an unrepresentative year.

The following table gives a picture of the per unit expenditure incurred for some of the interventions in the project, which reflects good cost efficiency (vis-à-vis potential benefits and impacts). It is also noted that the organisation has fostered a good culture of frugality at all levels.

Intervention	Per Unit Based On Cost Incurred in 2 years
SA Demonstrations	Rs. 991 per acre/farmer
Fodder Development	Rs. 775 per acre/farmer
Anantha Planter	Rs. 449 per acre/farmer (based on number of acres which used the planter in just one year)
Protective Irrigation	Rs. 625 per acre
Cement lining for farm ponds	Rs. 5435 per farm pond
Cycle Weeders	Rs. 755 per weeder
3-layered bags	Rs. 36 per bag
Row water sowing	Rs. 921 per acre
Sub-Soiler	Rs. 293 per acre

4.4 Impact

Measuring impact in a rigorous fashion was not within the purview of this evaluation. This will also be difficult in the absence of baseline data which the organisation has not been able to put into place for clear reasons. As Dr Malla Reddy points out, in an area where there is no “normal” year with weather playing havoc with rainfed farming all the time and with ground water depletion having reached alarming levels (connected to lack of rain and recharge), any year taken as a baseline year would only give misleading results of the impact of the project, unless several years’ data is collected and averaged out. This might even have to be for a whole decade! In such a situation, the best approach is a comparative framework being adopted to compare project beneficiaries’ experiences with equivalent non-beneficiaries’. However, due to

various reasons, the project has not been able to build rigorous data about its interventions vis-à-vis appropriate controls and this evaluation could only rely mostly on information gleaned from FGDs where sampling is not rigorous. Despite these shortcomings, the larger impact of the organisation and this project is evident. Here, impact is defined as lasting and larger change (larger than what the project directly addressed) as can be seen with changes in attitudes/knowledge/behaviour, with adoption by non-members, with market forces picking up an idea to cater to increased demand, with government agencies mainstreaming a particular intervention etc. etc.

There is large evidence throughout the field visits that awareness, knowledge and skills with regard to drought resilient sustainable farming practices do exist with the community – while such awareness is varying in different villages, there is certainly a basic appreciation for LEISA. This could however be attributed to factors other than this NGO's efforts too, with credit going to the organisation for being one of the frontrunners on this aspect. Adoption of such practices starting from mobile drip irrigation system to farm ponds for rainwater harvesting, millets cultivation, diversity-based cropping etc., are very much apparent, also aided by numerous government subsidised schemes in the recent past.

Due to numerous interventions in the form of seed kits being provided, demo plots being set up, seed banks being organised in the last phase etc., there is a shift in the cropping patterns amongst members. Several more crops are being grown, with adoption of some new varieties of seeds in castor, groundnut, pigeonpea etc. and this was apparent in the field visits. Increasing indents for seed bear witness to the popularity of these crops/varieties. Millets have been grown, along with contingency crops like horsegram. Navadhanya programme of the Andhra Pradesh government is centred around diversity-based cropping for farm resilience, risk reduction, nutrition security and to ensure that constant work and harvests are possible throughout 9 months. While the nutritional impacts of this change cannot be assessed (this was not the main thrust of the project and no data collection systems exist to measure impact here), it is clear that there is greater diversity of foods being consumed by members without having to incur high expenditure in purchase of the same. Kitchen gardens have aided this to some more extent though these kitchen gardens are not being maintained anymore owing to acute water scarcity.

It is worth noting that practices and technologies being promoted by the organisation have been adopted by non-members too, which speaks of the impact of the project. While exact estimates do not exist of the extent of adoption, technologies like Anantha Planter have become very popular given the short time windows available for sowing. 3-layered bags for seed/grain storage are also popular with non-members too. Cycle weeders/seederers present another illustration of wider adoption. The fact that market forces have now stepped in to cater to the demand for Anantha Planters is an example in itself. Several such planters are available to some extent or the other within the project villages owned by bigger landowners and entrepreneurs now, catering to the increasing demand from all farmers. In a FGD with Beluguppa MSMS members, we found that just in 18 villages which were represented in the meeting, the number of Anantha Planters has touched around 83, in 15 of those villages. Similar is the case with cycle weeders where the number was estimated to be 113. Around 14 farm ponds were being dug in different villages at the time of FGD with these MSMS members.

It appears that people are in general more ready for different contingencies related to erratic rainfall in the district. Increased seed self-reliance through Mana Vithana Kendrams (MVks) and seed banks set up in the project is part of this new framework of drought management, where timely seed supply is assured, of high quality seed (rather than depend on untimely and unreliable supply of seed from government or others). Priority being lent to members' farms within the concept of Mutual Cooperation also forms part of this new approach. Keeping contingency crop seed ready for delayed rains, and getting water tankers or mobile irrigation units deployed during prolonged dry spells are all now part of the "solutions basket" available to farmers even in harsh and challenging conditions.

The increasing political demand seen for Handri Neeva water being pumped into village tanks, aiding the recharge of borewells and increasing the possibilities for ground-water sharing or protective irrigation from tanks, can also be attributed to an extent to Dr Malla Reddy's long standing articulation of the need for the same. The impact of the demand gaining more political force and momentum in the coming years is to be seen.

The introduction of different government programmes along LEISA principles is a good measure of the impact of the interventions piloted by organisations like AF-EC. This applies to CMSS, Comprehensive Revival of Millets Programme, Navadhanya and now, ZBNF. This also applies to groundwater sharing programme. It has to be acknowledged that this has been a collective effort between a consortium of organisations. The much-publicised effort of the state government to use "rain guns" to save standing crop in the district last year is the other visible impact of the initiatives promoted by AF-EC for protective irrigation.

4.5 Sustainability

There are three aspects to the question of Sustainability in the project: (1) environmental sustainability concerns within the programme; (2) sustainability of interventions taken up; (3) sustainability of institutions created.

4.5.1. Environmental sustainability in farming and even otherwise (common property resources) is a concept that has been promoted by the organisation in numerous ways. However, more active internalisation of the concept of sustainability should be built into people's mind. For instance, the idea of doing commercial chemical fertiliser sales as part of the FPO activity goes against the principles of sustainability adhered to by the organisation thus far. In the recent past, AF-EC seemed to have put out messaging on chemical fertilisers and pesticides to be used in particular crops. This again goes against the principles of sustainability being promoted with the community and any mixed messaging would be certainly confusing to the members.

The continuing need for large and effective messaging / campaigns on matters of water conservation, agro-diversity, tree integration, integrated farming systems, natural/organic farming without synthetic inputs etc., cannot be over-stressed, and there is no room for complacency on this front. As part of the basket of measures kept ready around drought proofing and drought-resilient practices, recommendations around non-chemical farming should also be kept ready.

The work initiated around tree-crop integration with at least four models evolved on this front needs to be carried forward in at least a few chosen farms.

4.5.2. Sustainability of interventions taken up: It appears that a few interventions which have least cost implications for poor rainfed farmers will be adopted by such farmers, with or without the project's direct support for the same. These include 3-layered bags and cycle seeders/weeders. However, protective irrigation with the use of tankers is not affordable by everyone. Similarly, tree crop models have long gestation periods and raising the plants in Anantapur's harsh conditions is a difficult and unaffordable choice for many, even though it is a highly relevant and potentially profitable idea. Only government programmes with schemes that are designed for multi-year support can sustain such interventions in the case of poor farmers. The government has promoted mono-species plantations on a large scale in the recent past. There needs to be more work undertaken with the horticulture department to ensure that multiple species of trees along with bund planting of biomass species are included in the model promoted by the government.

An intervention that has been abandoned by members is kitchen gardens. It appears that the additional drudgery involved in taking care of these gardens during water scarcity is coming in the way of members maintaining the kitchen gardens. More work might be needed to identify hardier species to be promoted even here. The many benefits of this intervention cannot be

over-emphasised, and regular monitoring by STOs would be needed on this front for some more time to come, for this intervention to sustain itself. May be adoption of such interventions should form part of the scoring system for SMGs for future support.

Where market forces have picked up the demand for a particular technology, it can be expected that those practices will continue spreading/being used. This is the case with Anantha Planter. Cycle weeders still need the organisation to supply the tyres to local fabricators of the seeder/weeder.

It is also seen that as a way of ensuring sustainability of various interventions, the organisation begins with higher subsidies from its side, to be matched by partial contributions by members and over a period of time, tapers this off. This applies to seeds, 3-layered bags, cycle weeders, PI etc.

4.5.3. Sustainability of Institutions created: So far, the various institutions that have been created in the project have functioned mainly because of the project, with project support. The sense of ownership over the CBOs is varying in different places, depending on different factors. These include: benefits not being spread enough (during FGDs, it could be noticed that multiple interventions went to a few families, for example. Similarly, landless members were not getting much benefit from being associated); local leadership not always carefully selected; STOs' commitment, motivation and capabilities; lack of timely oversight and support from AEOs and ATIs etc. The concept of sub-SMG formation has not always taken shape in all places and might need some more effort.

In a couple of RFCs visited, where additional investments of time and support were extended by the organisation, the motivation levels are higher amongst all members. Here, their involvement in the SMG activities was visibly higher.

4.5.3.1 SMGs: The introduction of thrift and credit activity has certainly been a trigger for greater interest and participation in the SMGs. This is seen as a very useful and binding intervention by all members met during the evaluation process. Needless to add, this is also a mechanism towards sustainability of the CBOs created. The SMGs have created their own differential systems of savings amount (Rs. 50/- per month in some SMGs and Rs. 100/- in others) as well as interest rates charged for credit (1 rupee to 2 rupees per month, for every 100 rupees). This money is not transacted through a bank account but rotated right there and then in every monthly meeting as cash coming in and going out to borrowers.

The number of SMG groups that have entered into a Savings and Credit activity by the time of writing the evaluation report include:

Mandal	SMGs in this thrift & credit out of total number of SMGs	Amount pooled, including interest charged on credit
Atmakur	65 out of 71	Rs. 1366594
Kuderu	97 out of 97	Rs. 1984040
Dharmavaram	98 out of 98	Rs. 1979508
Raptadu	81 out of 84	Rs. 1559643
Kalyanadurgam	108 out of 108	Rs. 3006713
Beluguppa	118 out of 123	Rs. 2301192
Kundurpi	140 out of 140	Rs. 3572751
Setturu	100 out of 100	Rs. 2397360
TOTAL	807 out of 809	Rs.18167801

The possibility of leveraging of institutional financing for various economic activities would obviously be higher if a system is devised to deposit at least half the amounts being transacted, into bank accounts. The larger the amount at the SMG level, the more difficult it is to manage too.

4.5.3.2. MSMS: The recent effort in creating registered FPOs (in the form of Mutually Aided Cooperative Societies) has certainly seen a spurt of interest amongst the leadership cadre of the CBOs at the mandal level. There is much bubbling enthusiasm around trying their hand at different enterprises/trading. The confidence from running MVKs in CMSS programme exists with some of the leaders. There is also an identity that got associated with the CBOs when they opened pigeonpea procurement centres for government marketing agencies like MARKFED. A visit to the Raminepalli procurement centre revealed that farmers are happy with local procurement centres which are paying them the Minimum Support Price announced by the government (Rs.5050 per quintal) in an year when production was low in this area but a general glut in the market due to overproduction in the country (prevailing market prices ranged from Rs. 3500 to Rs. 4000 only), while the MACS leaders are happy with the credibility and experience that they are gaining through the service provision activity. This is an intervention that came about due to the lobbying done by the organisation with top bureaucrats in the state government.

At the cluster and mandal level, the sense of ownership of the leaders who got associated with the community institutions at that level is higher for all these reasons. MSMS leaders are also expressing hope that they will be able to take up interventions that will benefit their members through the entrepreneurial activity picked up by the FPOs and the profits made there. This is quite apart from their plans for distributing bonuses and also ploughing back profits into the business for further expansion.

4.5.3.3. ASMS: The ASMS is yet to see tangible and strong action at the apex level. It is very much dependent on the organisation for its running and not all leaders seem strong enough for a federated body like ASMS. However, they are a confident cadre and have been able to influence the NGO programme directions in the last year (the scaling up of protective irrigation support far beyond the planned activity is in response to this demand from the ASMS; similar is the case with cement lining of farm ponds, and gap filling in tree plantations). The ASMS members feel confident about several activities being run in future on their own steam, if the organisation were to stop undertaking those activities. These include mutual cooperation in the SMG members, cycle weeders, composting, contingency crops in case of delayed rains (for which they are ready to dip into seed banks funds), 3-layered bags, farm pond lining, row water sowing, protective irrigation etc. They gave instances of when meetings were organised by them at the SMG level even without an STO being present from the organisation. At least one third of the ASMS members present in an FGD expressed confidence that they can run their SMGs without always the help of the organisation. They also pointed out that the landless and migrating households will continue to take interest in the SMGs and find them useful only if they can benefit from being associated. For them, off-farm and non-farm micro-enterprises were suggested. As a systemic mechanism to empower the ASMS and MSMS to be able to achieve some benefits on their own, government officials from concerned departments are being invited into their monthly or quarterly meetings, for the MSMS and ASMS leaders to raise issues for addressal.

ASMS and MSMS members are also involved in monitoring the CBOs and their functioning. However, this has not always been an effective mechanism since it has been seen more as a 'cross-pollination' function rather than a mechanism by which weak CBOs can be strengthened. Even within such cross-pollination possibilities, the live examples of Devadulapalli or Seegalapalli RFCs (for example) have not been yet spread to other SMGs for inspirational effect and much is possible on that front.

The organisation's management looks towards the ASMS as a sounding board, and for reviewing and monitoring the relevance and efficacy of interventions. The ASMS has indeed functioned as a forum that helped the organisation evolve its strategies and interventions.

The potential of the ASMS as an influential advocate of several demands pertaining to rural livelihoods in Anantapur's harsh environs has to be carefully nurtured and requires planned interventions.

Meanwhile, the possibility of federating the FPOs across 8 mandals into a Producer Company also exists, on the enterprise front. Careful selection of leadership can be taken up for these distinctly different roles at the apex level (that of ASMS and that of governance of apex FPO).

To sum up, the path towards sustainability is visibly established, as can be seen from large scale adoption of some interventions by community members who are not direct beneficiaries of the project, by the strength being gained by CBOs built in the project, by the future prospects available for FPOs both for trading and for service provision in government programmes like grain procurement, and by successful policy advocacy bringing in large scale sustainable agriculture programmes by the government.

5. Recommendations

Based on the observations and findings of the evaluators during their field visits, as well as views heard by CBO leaders who did their own assessment in participatory exercises, the following recommendations are put forth for the organisation to consider.

- 5.1. Focus on a set of chosen, popular drought-proofing and drought-resilient low external input sustainable agriculture practices:** On the agriculture front, the present time appears to be a right time for consolidation. It is clear that interventions to suit various purposes have already been successfully evolved, whether it is meant for rainfed farmers or irrigated farmers. These recommendations range from particular varieties of seeds to resilient cropping systems, rainwater harvesting, protective irrigation etc. It is important that the project focuses on the more popular interventions (which have been popular because of clear economic benefits accruing to a given household) and their adoption on a wider scale, by bringing in other players into the picture (local entrepreneurs, government agencies etc.). These seem to include: protective irrigation, 3-layered bags, contingency crop seeds' supply, demo plots for newer varieties of crops, Navadhanya, CMSS, cycle weeders/seeder etc. Some of the popular interventions also need further improvements as in the case of early versions of Anantha Planters or even seed varieties like "Shakti" green gram (resistant to yellow mosaic).

The organisation has to not only clarify its stand on synthetic-chemical-inputs-based farming, but would have to promote it pro-actively with its members and others, in anticipation of a good season of rains and also groundwater recharge through Handri Neeva project (river water used to fill village tanks) – constant reminders of the need for LEISA are important in a fragile ecology and economy as that of villages here. It is also coincidental that AF-EC's own research is pointing to the superiority of organic farming in vegetable cultivation in which some systematic experiments have been taken up on the organisation's research farm.

It appears that tamarind tree rearing (with early-yielding varieties) is hardy and remunerative as at least one or two trees grown in one part of the land near a bund. This could be encouraged some more by the organisation.

There are some interventions that the organisation itself has zeroed in on, as ones which are not feasible or as ones which do not find an adequate response from the community as of now – these include carbon revenues from low carbon farming, tree-crop farming, sub-soiler, fodder plots on public lands and Farmer Field Schools (FFS) as a strategy of capacity building and action. It appears that backyard nutrition gardens have been abandoned by the community in the current acute drought situation. Row water sowing has also not yielded much result, as per farm diary data.

- 5.2. Focus on off farm and non-farm livelihoods in a big way:** It is time that the organisation focused on off-farm and non-farm activities in a big way, in addition to ensuring that opportunities are opened up for farmers for marketing their produce in a remunerative and profitable fashion through FPOs as well as tying up with government procurement agencies. There is greater hope in the community on such interventions than on farm interventions. In various FGDs, it was apparent that wage work without any accompanying risk (except that it hinges on the availability of such employment, of course), ram lamb rearing, and micro-enterprises evoke a great deal of hope and response. It was repeatedly emphasised that these are very much needed. Right now, the alternate livelihoods intervention of the project is focusing only on rural youth (both men and women), whereas the demand is for/from everyone, for diversified livelihoods.

In this effort, it would be important to have sharper social equity focus on landless households, on women-headed households including single women, on dalits etc.

It appears that ram lamb rearing is a remunerative and relatively-low-risk enterprise and should be invested upon wherever there is such a request and it is feasible. Numerous non-farm micro-enterprises might be possible from the level of concentration of a diversity of such activities seen in one village during the evaluation process (Gangavaram). While not all of them will have margins enough for an entire household to depend upon, this will allow for diversification of income sources. The possibilities for Joint Liability Groups (JLGs) financed by banks could be explored further, since this comes with the possibility of interest subvention. Given the general depressed local village economies, some of the enterprises should be devised to cater to distant (urban) markets with their disposable incomes, and here collective enterprises have to be thought of and not just individual enterprises. Garment making units (as a progression from tailoring by individual women) is an example.

There appears to be room for more youth to be drawn into driving, which is improving the lives of most of the trainees that the organisation invests upon. Similar is the need to set up garment-making units if forward linkages are available and this is being actively explored.

Kitchen gardens should be nurtured despite the challenges it offers, to ensure that some savings can be made on cash outflows for purchase of vegetables in addition to increasing the intake of such vegetables by self cultivation.

It is also important that the organisation tries to ensure that its poorest and most marginalised members are adequately covered by government programmes that provide basic social protection – this includes PDS ration cards, pensions etc. Further, ensuring proper implementation of NREGS, especially for the landless SMGs is an important contribution that the organisation can make, even if it means only 30-45 days of work per adult per household. Given that the focus is on diversified livelihoods, such employment provided by government's employment guarantee scheme also adds to the basket of livelihood sources available to marginalised families. There is also much scope for the organisation, given its credibility and policy influencing ability, to get NREGS scheme re-designed and expanded further if it puts its energies behind the same.

It is also important to ensure that Supreme Court orders in the Swaraj Abhiyan PIL on drought prevention and relief are implemented on the ground and the organisation has a role to play in the same. Members can be educated about the Orders in a special drive.

The evaluator would like to strongly recommend an unusual approach for the next phase: that of keeping at least 1 crore rupees as fixed Bank Guarantee (with the interest being available for some ongoing activities) for individual members as well as small JLGs or entire SMGs to pick up off-farm and non-farm enterprises, after rapid appraisals and after identifying the most needy amongst the members.

- 5.3. FPOs hold much hope and need systematic nurturing:** There is much interest amongst the CBO leaders to try their hand at post-harvest marketing activities including as seed, value added produce, processed produce and even pick up non-farm income generation / trading activities. While members also understand the need for the same, they are not always in a position to pay their share capital of Rs. 500/- to Rs. 1000/- in time. The drive to enrol as many members as possible should continue with even the option of lending the share capital money from members' savings in the SMGs. It is important that all SMG members find membership in the FPOs too. A full-time Central Office team member designated for guiding these FPOs is a welcome development. External consultants might be engaged from time to time to take up appraisals/feasibility studies of proposals from the FPOs. Capacity Building investments have to be made in the

upcoming phase to help the FPOs evolve into independent/autonomous entities. There should be an intense dialogue on the principles/values framework that will guide the FPOs in their enterprises. All the existing MACS could be federated into one FPO registered as a Producer Company at the appropriate time. Such a hybrid structure at various levels (informal groups at the village level, cooperative societies at the mandal level or village level in the case of RFCs and producer company at the highest level) will allow for different kinds of activities to be done by different institutions as appropriate.

- 5.4. Organisational changes needed:** For an organisation that is keen on influencing government policies and programmes by establishing models at the grassroots at a convincing scale, the need for proper documentation and evidence-building cannot be over-emphasised. The lack of systematic data collection and analysis is something that requires immediate action - this has happened despite some systems of monitoring being in place. The PME team has to be kept full time on the job without any additional roles and responsibilities, and this can be done with even a leaner 3-member team (one team leader and two associates). One of the existing PME Associates is already functioning as HR Manager and might be explicitly designated as such, while another is looking at Government Programmes and might have to be given full time work as such. The existing team leader has already been moving towards a role of Community Institution Building.

While having a flat organisation certainly has its advantages, the future thrust being proposed on off-farm and non-farm livelihoods also might need organisational restructuring. AEOs placed as one staff member at the mandal level might be re-designated as Mandal Livelihoods Officers (MLOs), with the STOs reporting to them directly. This might require only two ATLS as line managers of 8 MLOs (it might be possible that two ATLS will be willing to be re-designated as MLOs if their salaries are protected, and fill up the two vacant AEO posts that exist today as MLOs). The two ATLS in turn could report to the Chief-Sustainable Agriculture who would have to be re-designated as Chief-Livelihoods. The Community Institution Building expert would have to work at all levels. "STO Pool" might have to be created with at least 10 new recruits kept on the standby additionally at any point of time. There is a need to invest in staff capacity building at all levels on issues other than agricultural technologies/practices.

- 5.5. Further scope for Equity and Sustainability focus:** The organisation can further sharpen its social equity and sustainability focus and this can be done by re-looking at off-farm and non-farm options for the landless, single women etc. A rigorous survey on the current status of landlessness amongst members and non-members in the project villages should be taken up towards this. Gender equity concerns need to be dealt with by more conscious shaping of each intervention by the team leaders, given that STOs and SMG leaders would take some more time to re-socialise themselves on this front.
- 5.6. Streamline Community Based Organisations:** The evaluator would like to recommend that all members of the SMGs be made into members of MACS/FPOs at a basic level of share capital payment, with those expressing their inability to pay the increased share capital amount being loaned some amount from their savings. The FPOs should have a senior staff member appointed full-time for the purpose guiding them, including investing on capacity building of FPO leadership. FPOs already have opportunities for service provision in government programmes (by performing their role as Mana Vithana Kendrams (MVKs) in the Community Managed Seed Systems (CMSS) programme or as programme implementation agencies for Navadhanyam and Millets programmes, or by opening procurement centres for government marketing agencies).

SMGs need further strengthening as the basic units of community organisation. A couple of Rainfed Farmers' Cooperatives (RFCs) have indeed shown the potential of such SMGs when the organisation leverages other agencies to support the SMG, and when appropriate leaders are selected and nurtured at the SMG level. A scoring system could be introduced for the SMGs, with some discretion left for the organisation to intervene on

a need-based fashion so that performance along certain chosen parameters can be improved for all SMGs. Such parameters can be chosen in consultation with the CBOs. SMGs might need their own bank accounts to be opened given that the volumes of money being transacted are getting larger (each group's average savings range from Rs. 19,250/- to Rs. 27,800/- across different mandals). This might improve their chances of being financed as JLGs by bankers. As an interim measure, half of the savings can be rotated at the member level for some more time to come, while half can be put in a bank account.

SMG sub-groups can continue as informal but identifiable units as is happening now, both for functional purposes (for mobilising members into meetings, mutual oversight on activities, mutual cooperation etc.) but also because they can be converted as PGS groups (Participatory Guarantee System) for organic farming under PKVY or otherwise. This would also help in better monitoring.

MSMS meetings could be re-organised in a manner that functions being performed by the GSMS can be performed in one hour of designated time for cluster level discussions during the monthly MSMS meetings. Here, the main GSMS function of apportioning activities between SMGs can be taken up. This way, village level GSMS can be made to work through MSMS meetings, saving time for both the CBO leaders and for the STOs (with one of the SMG Convenors designated as Village Convener and one of the Co-Convenors as Village Co-Convener). At a later date, when the SMGs are strengthened as a basic unit of the CBO structure, if the need for a distinct village level federated institution arises, that may be looked into.

ASMS should be nurtured not just as a sounding board for the NGO but as a strong advocacy and lobbying body on behalf of its farmer-members in 8 mandals of the district. It should become a political force to reckon with, when it comes to policy decisions that have to prioritise farmers' interests. This requires careful investments from the topmost personnel of the organisation, in addition to knowledge-building about government policies, programmes and schemes. The constitution of the ASMS should reflect the equity concerns of the organisation, with equal space provided to women members, in addition to landless, dalits etc.

6. General conclusions

The transparent and honest functioning of the organisation is exemplary, in addition to its leadership that is open to committed and feasible ideas for improving rural livelihoods in project villages. This evaluation was also taken up in an honest fashion with full participation from all stakeholders.

It is worth noting that the project and NGO as a whole are used to reviewing their progress quite regularly. It is remarkable how the self-monitoring/self-reflective exercises taken up in December 2016 as well as March 2017 have already picked up many issues being highlighted in this evaluation report, for example.

The basket of interventions designed and implemented by the organisation is highly relevant and the flexibility available to respond to emerging needs is effective and impressive. Most interventions are found to be effective and adoption is on the increase. It is clear that in a good year, the interventions provide overall positive benefit to the participating households and in a disaster year like last year, the interventions still ensure minimal losses to the participating farmers compared to their counterparts outside the project.

7. Annexure

1. Assessment of Outcomes and Impacts in an all-staff process by AF-EC on 02/03/2017
2. Ranking of efficacy of interventions by STOs

3. Overview map of the project area

Annexure 1:

Assessment of Outcomes and Impacts in an all-staff process by AF-EC on 02/03/2017

Assessment of Use of output, Outcome and Impact in Sustainable Agriculture and livelihoods project implemented during the period 2015 - 2016 done in All staff meeting conducted on 02.03.2017					
Sl.No	Name of the Activity	Objective of the activity	Use of output	Effects	Outcome
1	Sasyamitra Groups	80% of the CBOs strong and effectively functioning with enhanced participation and leadership of women farmers at village, mandal and project level actively participating in planning, monitoring and evaluation.	Attendance: 15-22 members, Active participation: 15 members, Decision making and implementation: 5 members	women participation increased	
2	Grama Sasyamitra Groups		Re-organised GSMS recently as they were not functioning as expected		
3	Mandala Sasyamitra Groups		Attendance is 60% Agenda has become routine	Recently registered as MACS	
	Field monitoring by MSMS leaders		Leaders have taken responsibilities	Quality of programs increased, cross learning happened, Incomplete works cleared	
4	Thrift in SMGs		90% SMGs are doing savings and lending regularly	Loans available to needy members at lower interest rate	SMGs have strengthened
5	Promoting Mandal SMGs as MACS	Farmers gain better incomes by taking control of Agriculture value chain from Production to Marketing	The MACS leaders are collecting Share capital of Rs 1000/- from members		
6	Promoting Mutual cooperation in SMGs		PGS groups in 60% of SMGs are into Mutual cooperation	The labour expenses in agriculture reduced.	
7	Rainfed Farmer Cooperatives		Devadulakonda RFC has availed Bank loans for Dairy and Garment making activities	Milk collection centre established in January is making profits	Case study available
8	Farmer Field Schools		30% of the participants are utilizing the knowledge	Cost reduction and increase in yields observed	income increased from Rs 2000/- to Rs 4000/-.
9	Exposure visits	A shift in cropping practices by atleast 30% of target farmers from HEIDA to cost-effective and eco-friendly LEISA.	Exposure visit to Mulkanoor helped a lot	Farmers convinced about need of MACS, increase energy and confidence.	
10	Convergence with Government and other NGOs		Bank linkages, Gypsum supplied, Animal camps and Horticulture subsidy provided	Good relationship with Govt officers, Awareness on schemes, mutual benefit	

11	Training programs on Sustainable Agriculture			Awareness of farmers increased, more participation observed in SA practices	Farmers taking informed decisions
12	Drought resilient cropping systems	A shift in cropping pattern by 30% of target farmers from mono crop of groundnut towards a diversified cropping with millets and pulses		GCH 7 castor variety performed well, Greengram has did well	Increase in yeilds by 50% in Castor and 40% in Greengram
13	Crop Demonstrations on cost reduction technologies		About 50% demo farmers benefitted	cost saving upto Rs 2000/- per acre observed	
14	Contingency crops		Done on a big scale in 2015	increased fodder availability	increase in income upto Rs 3000/-
15	CMSS & Navadhnaya & Millets programs		Seed availed in time at low cost	able to sow in time	
0	Farm Pond lining	Drought mitigation practices and technologies are developed and demonstrated inorder to cope with low, erratic rainfall and long dry spells.	45% utilized. Form ponds filled once in 2016 and twice in 2015	Protective Irrigation provided from filled Farm Ponds to annual and tree crops	Increased production leading to increased income of Rs 3000/-
18	Row water sowing			Crop germinated is 100% in demo plots	Yeild obtained in 40% of germinated crops
19	Ananta Seed drill & Aqua planter		Timely sowing done	Income to MSMS	
20	Protective Irrigation		60% of utilized farmers got result	increased yileds upto 20% (varience from crop to crop)	increased income upto Rs 3000/-, 30% scale up
21	Cycle seeder & Weeders		100% utilization	Each farmer saves upto Rs 5000/- per acre	
22	3 layer bags		80% utilisation	farmers able to store seed till next sowing season	Saving of Rs 2000/-, high spin of effect
23	Backyard poultry		60% utilized	earned upto Rs 2000/- in an year per family	
24	Promoting Tree crops in Rainfed lands		Experimented and demonstrated drought tolerant models of tree crops	Survival rate of plants is 70%	
25	Campaigns and mega events on like Women Days, World Water Day and Day to combat Drought and Desertification	A more sensitized Anantapur Civil Society and CSOs voicing for combating droughts & desertification and lobbying for policies and programmes more in favour of combating drought and desertification,			

		sustainable agriculture, gender, social equity etc.			
26	Promoting Rural Livelihoods	Generate alternate non-farm, skill based employment opportunities for under-educated rural youth particularly women			
27	Training youth through centres like RUDSETI..				
28	Skill training to Youth like Driving, motor cycle mechanism, Tailoring etc		40% trainees placed	earning Rs 5000 to Rs 7000 pm	
29	Low Carbon Farming	Explore prospects of carbon revenues to farmers with LCF (Low Carbon Farming)			
30	Biogas Programme	Undertake Biogas project under CDM (Climate Change Mitigation) in order to benefit farmers and environment			

Annexure 2:

Ranking of Efficacy of Interventions by STOs

(Each STO was asked to rank top-3 interventions and the following is the compiled picture)

Farm Interventions	No. of STOs who ranked it in Top 3
Protective Irrigation	26
Mana Vithana Kendram / CMSS	18
Farm Pond Lining	16
Sprinkler	11
Tree Crops	10
Contingency Crop	10
Demo Plots	9
Cycle weeders	5
Oil Engine	5
Navadhanya	5
Row water sowing	4
Mutual cooperation	3
Pigeonpea procurement	3
Farmer Field School	2
3-layered bags	2
Fodder plots	1
Compost	1
Drip Irrigation	1
Soil testing	1
Seed Banks	1
Aqua Planter	
Anantha Planter	
Drum Seeder	
Sprayers	
Millets	
Gypsum	
Sub-soiler	
Low Carbon Farming	
Groundwater Sharing	

Off Farm Interventions	No. of STOs who ranked it in Top 3
Sheep / Ram rearing	26
Milch animals and dairying	25
Backyard poultry	19
Kitchen gardens	12
Goats	9

Non Farm Interventions	No. of STOs who ranked it in Top 3
Micro-enterprises	26
Tailoring	23
Driving	8
Computer training	5
Mechanic/repairing of automobiles	4

Note: Several STOs are new to the organisation; the previous year conditions would have weighed heavily when such ranking exercises are taken up.

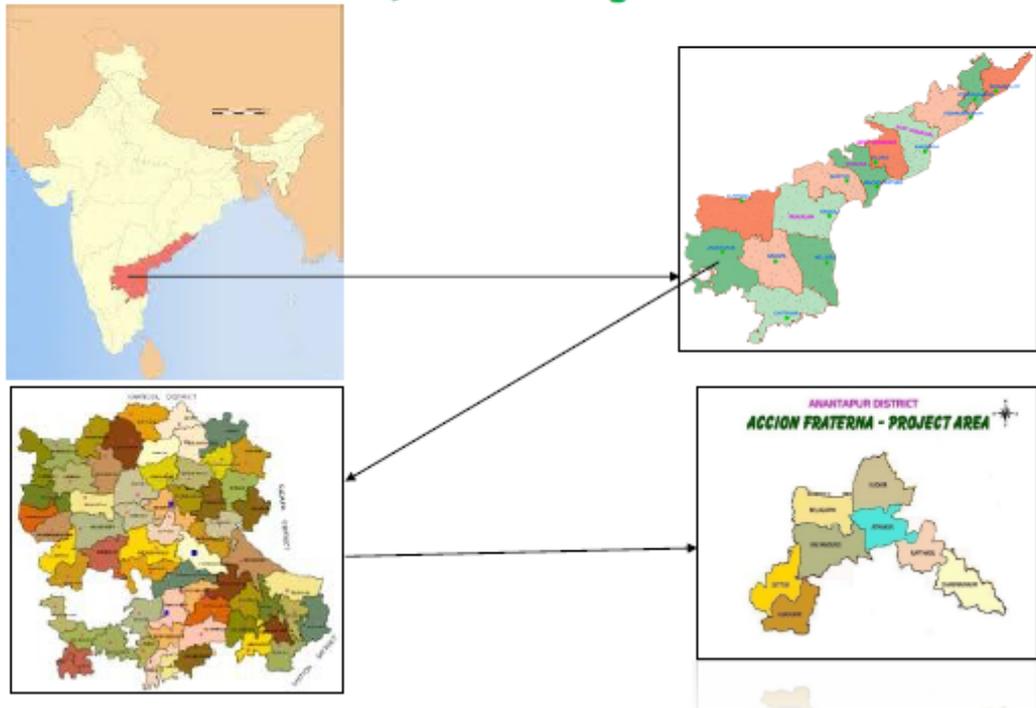
STOs were also asked to share the main demands that they hear from the villages (which also finds resonance in the STOs themselves) about what else should the organisation be doing/ doing more. The following were the responses.

"Ask"	No. of STOs
NREGS and employment guarantee	16
Support of single women	5
Drip irrigation	3
Tailoring units	3
Loans for Milch animals	3
Pensions	2
Tailoring machines	2
Fruit seedlings	2
Support for disabled	1
Employment for unemployed	1
Milk Collection centres	1
Driving	1
Construction of toilets	1

Annexure 3:

Overview of the Project Area

India, Andhra Pradesh, Anantapur District, AF Project Area



Annexure 4: Rainfall Data

DETAILS OF RAINFALL							
MANDAL	Dharmavaram, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1						4	
2							5.6
3		6.3	8.2				
4							
5							
6		3.3					
7							
8			31.5		11		
9			33.3				
1							
11							
12			3.8				
13							
14							
15							
16							
17							
18							
19		2	9	22.6			
2		29.6	59				
21				9.5			
22			2.1			4.2	
23							
24							
25				4.4			
26				3.4		5	
27			6.3	4.1		3.5	
28			2.7	27.7			
29		63.4	7.3	2			
3				7	11.4		
31							
TOTAL	0	104.6	163.2	80.7	22.4	16.7	5.6
GRAND TOTAL	393.2						

DETAILS OF RAINFALL							
MANDAL	Raphthadu, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1			2.8			11.6	3.9
2							
3							
4							
5							
6							
7							
8							
9							
10							
11						6.5	
12							
13							
14							
15							
16							
17						2.6	
18							
19		2.3		4			
20		11.4					
21				4.7		4.3	
22						6.8	
23							
24							
25							
26				6.1			
27				3		5.8	
28				2.7			
29		6.8				9.9	
30				2.9	4.1		
31							
TOTAL	0	20.5	2.8	23.4	4.1	47.5	3.9
GRAND TOTAL	102.2						

DETAILS OF RAINFALL							
MANDAL	Kudair, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1							3
2							
3							
4							
5				3.7			
6							
7				3.1			
8							
9							
10							
11		14.6				36.9	
12							
13							
14							
15							
16							
17							
18							
19		13.6					
20		14.1					
21				4.7			
22						18.2	
23							
24							
25							
26							
27				39			
28				24.4			
29		69.7					
30					36.2		
31							
TOTAL	0	112	0	74.9	36.2	55.1	3
GRAND TOTAL	281.2						

DETAILS OF RAINFALL							
MANDAL	Atmakur, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1					3.1	6.3	7.6
2							
3							
4		5.7					
5							
6		4					
7		4.9					
8							
9							
10							
11		11.8				18.6	2.1
12							
13		4.5					
14						2	
15							
16							
17				2.8			
18							
19		11.7		19			
20		8.7					
21				11.1		2.9	
22						11.1	
23							
24							
25							
26				3.2			
27				44.2		13.7	
28				19.7			
29		57.4		4.1		8.2	
30				2.7	15		
31							
TOTAL	0	108.7	0	106.8	18.1	62.8	9.7
GRAND TOTAL	306.1						

MANDAL	Kalyanadurgam, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1							
2							
3							
4							
5							
6		6.2					
7							
8							
9							
10		3.8					
11						27.7	
12							
13							
14						3.1	
15		3.8		5			
16							
17							
18							
19		9.3					
20		26.5					
21				4.9		2.3	
22				5.5		4	
23							
24							
25				14			
26							
27				7.5		5.6	
28				67		3.9	
29		26.8				3.7	
30				2.1			
31							
TOTAL	0	76.4	0	106	0	50.3	0
GRAND TOTAL	232.7						

DETAILS OF RAINFALL							
MANDAL	Beluguppa, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1							
2							
3							
4							
5							
6		2.6					
7				6.2			
8							
9							
10		3.3					
11						4.1	5.2
12							
13							
14						3.4	
15							
16							
17							
18							
19		3.9		2.1			
20		4.6					
21				3.4		3.7	
22				7.9		4	
23							
24							
25							
26						2.8	
27				3		3.8	
28		38.5		35.2			
29					2.4	5.5	
30				3.9	7.3		
31							
TOTAL	0	52.9	0	61.7	9.7	27.3	5.2
GRAND TOTAL	156.8						

DETAILS OF RAINFALL							
MANDAL	Kundurpi, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1				2.7			
2							
3							
4		8.4					
5							
6		9					
7				4.5			
8							
9							
10							
11							2.4
12							
13							
14						2	
15							
16							
17						5.2	
18							
19		6.1					
20		27.7					
21						2.2	
22				9.4		2.9	
23							
24				26.2			
25							
26						0.3	
27				39.2			
28				37.2		7.5	
29		20.5			12.2		
30				2			
31							
TOTAL	0	71.7	0	121.2	12.2	20.1	2.4
GRAND TOTAL	227.6						

DETAILS OF RAINFALL							
MANDAL	Setturu, Anantapur District, Andhra Pradesh						
PERIOD	April 2016 to October 2016						
DATE	APR'16	MAY'16	JUNE'16	JULY'16	AUG'16	SEPT'16	OCT'16
1							
2							
3							
4							
5							
6		9					
7						6.2	
8							
9							
10							
11						1.6	
12							
13					4.5		
14						15.5	
15		3.2					
16							
17							
18							
19							
20		32.4					
21				2.6		4.7	
22						13.6	
23							
24							
25				13			
26						3.7	
27				21.5			
28				38.1			
29		51.7			4.1		
30				3.8			
31							
TOTAL	0	96.3	0	79	8.6	45.3	0
GRAND TOTAL	229.2						