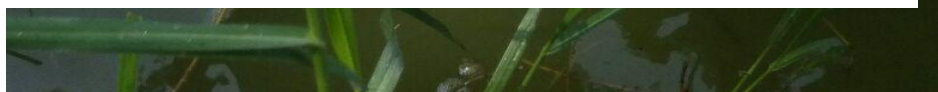


Annual Report 2017-18



Centre for Aquatic Livelihood Jaljeevika

www.jaljeevika.org



The Journey:

Towards establishing pond based livelihood system

In Indian Context, The annual fisheries and aquaculture production has increased from 0.75 million tonnes in 1950-51 to 9.6 million tonnes in 2013-2014. Production wise, India stands second position after China but productivity wise still we are lagging behind. Most of fish production quantity is almost fully consumed on the domestic market, except for shrimps and freshwater prawns, which are mainly exported. National level fish consumption ratio also varies from State to State. The national average annual consumption of fish and fish products in 2010 was 2.85 kg/capita. Kerala, fish is consumed the most, with 22.7 kg/per capita and in the mountainous state of Himachal Pradesh consumption is with 0.03 kg/capita, but more than 60% of the Indian population does eat fish. Fish is one of the most sought non vegetarian foods in rural area.

The freshwater aquaculture production in India comprises about 2.36 million ha of ponds, tanks and more than 3 million ha. of reservoirs. That accounts for nearly 55% of the total fish production in India. Most of the freshwater fishes are consumed locally. Freshwater Aquaculture production is mainly of a low input production system compared to shrimp and commercial catfish farming. Freshwater fishery varies its operational degree from region to region. In Eastern India part of India, mainly consists of ponds and tanks of less than 1 ha. In Western India aquaculture is operated on a larger scale, with watersheds of 15- 25 ha. In Northern India more use is made of open waters for aquaculture and in the South, ponds for crop irrigation are used in aquaculture. Different species of Indian carps contribute between 70- 75% of the total freshwater fish production, while exotic carps and others 25- 30% of the production. Production is mainly destined for the domestic market and processing of freshwater aquaculture produce is rare. Freshwater fishes are in high demand in east and north east part of country.

Apart from freshwater fishery, ponds are used for varies kind of aquatic vegetation cultivation like Singhara, Makhana, Lotus etc. Apart from those crops, freshwater is also used to produce Azolla, Spirulina kind of high protein value produces.

Unfortunately all aquatic related crops are not considered in pond based livelihood system despite its great potential to enhance rural livelihood system.

Centre for Aquatic Livelihood- Jaljeevika is established to engage with farming community to improve their capacity, enhance livelihood potential, Provide options of low cost appropriate technologies, and develop community based institutions to create a sustainable market place for themselves. We aim at to work across value chain around aquatic production system. We want to create a gender just, equitable and value laden production system based on eco system approach.

During last few years of our modest journey, focus has been on creating community based cadre designs for enhanced productivity of pond based livelihood system. As a strategy, Jaljeevika works with NGOs and promotes collectives. The insights from such field level support helps in evolving a perspective for needed value chain approach. Thus, the wider collaboration strengthening over the years with large number of NGOs, academic institutions and Cooperatives is contributing to the agenda of JalJeevika. As part of advocacy and lobbying, Jaljeevika has represented and contributed towards National Fishery Policy design.

Our strength and capacity lies in commitment towards the sectoral development agenda rather organizational promotion. And the consistent support from the donors reinforces our commitment to the agenda.

Message from Directors

The year 2017 saw some major events at Jaljeevika, Activities developed around the three interlinked challenges of sustainable freshwater fishery in India, resilient small-scale fisheries, Gender integration in fishery and developing collective's capacity to implement technology driven concept, which Jaljeevika is leading in cooperation with partner organisations. Freshwater fishery and rearing own fish seed is an important mechanism to deliver and drive sectoral development strategy. The ultimate goal of Jaljeevika is to encourage impact-driven innovation that achieves just, equal and inclusive socioeconomic development of community. As an organisation, we are performing multiple functioning at various levels simultaneously for building partnerships and networking. With various limitations, Jaljeevika is making all effort to place ourselves to work towards larger agenda of influencing sector. As our activities continue to develop, the learning from the community and program will rephrase our approach towards higher impacts that contribute to achieving the organisational strategy and creating long-lasting livelihood opportunities for the millions of people who are dependent on water based livelihood system.

This annual report highlights some of our key achievements over the past year as we progress towards our impact targets.

- ✓ Peddagada women group members received : Best women entrepreneurs award, CIFA (Bhubneshwar), 2017
- ✓ Center for aquatic livelihood Jaljeevika was among the finalist of Business line change maker award, 2018
- ✓ Numbers of local cages installed: 70
- ✓ Numbers of boat distributed using local materials: 45
- ✓ Total spawn stocking (in Crore): 21.24
- ✓ Numbers of fish seed Nursery farmers : 171
- ✓ Engagement with numbers of cooperatives: 68
- ✓ Engagement with Numbers of women groups : 34
- ✓ Numbers of beneficiary received support /Government scheme: 980
- ✓ Numbers of training program :42
- ✓ Numbers of training beneficiary: 2000+
- ✓ Numbers of awareness program: 210
- ✓ Numbers of participants: 4500+

Mission

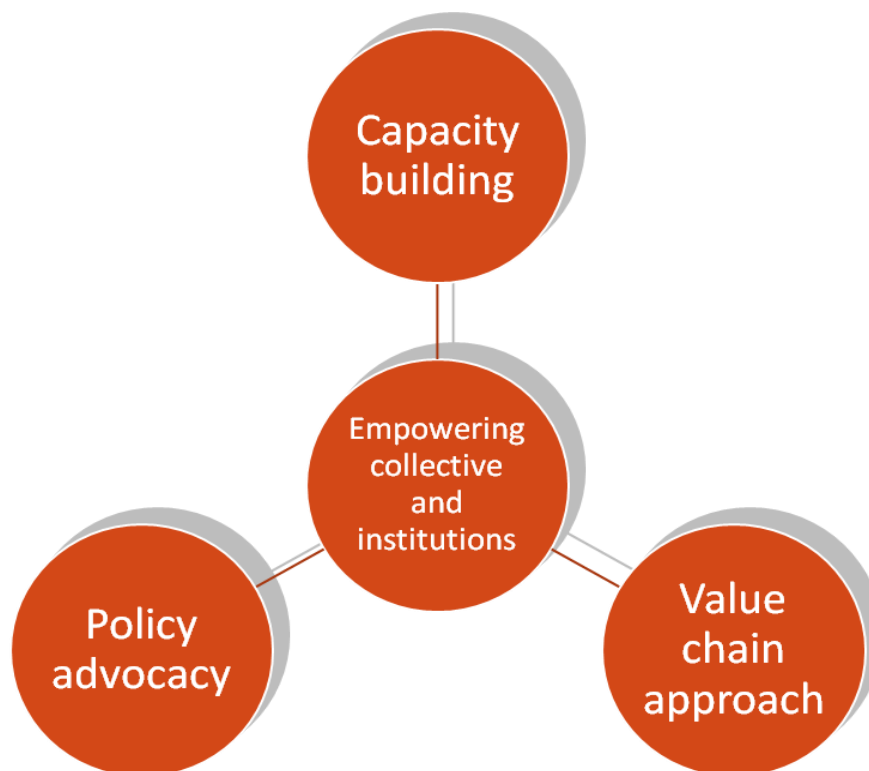
Our mission is to strengthen community collectives towards promoting a resilient livelihoods, food and nutrition security by improving aquatic livelihood system.

What We Do

Jaljeevika seeks to accomplish this mission by:

- Designing and implementing institutional governance systems through community engagement and capacity building; and
- Empowering through information, knowledge dissemination and expertise to help ensure that fisheries and aquaculture create sustainable livelihood and reduce poverty.

Premises of our Intervention:



Resilient and Inclusive small-scale fisheries

Jaljeevika aims to improve the resilience, productivity and gender inclusive approach in small-scale freshwater fisheries,

Andhra Pradesh Program:

Andhra Pradesh fishery program was started with supporting cage fishery program in six reservoirs. But organically it has developed as a tested model for capacity building for cooperatives, technology installation program, small scale fishery and gender integration in fishery related verticals.

During Year 2017-18, we had worked in 314 villages of 56 Mandals in 6 districts of Andhra Pradesh State. That is a big leap in terms of geographical coverage of program area within two years of program inception.

It's not only horizontal scale up of program in terms of coverage , but also vertical integration of components of reservoir fishery, capacity building, small scale fishery and seed rearing as enterprise development. Last year, program has taken gender integration components, Nearly 10 women groups across districts were provided hand holding support to develop as a community organization. Two women groups (in Ananthapur and Srikakulam) had initiated process of registering as a cooperative.

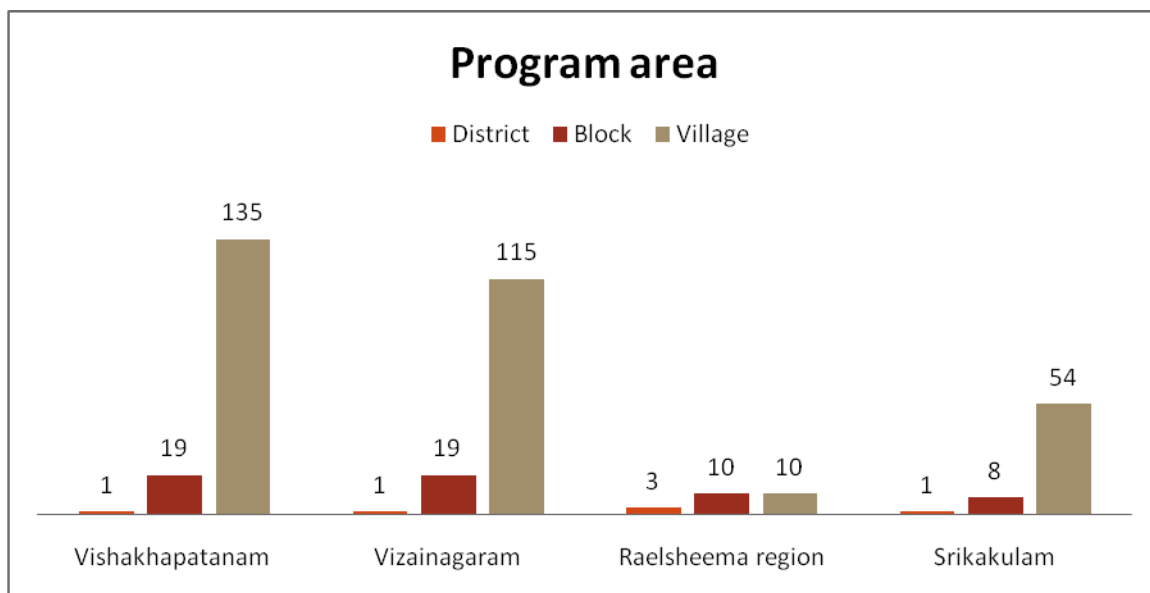


Fig. Program area of Andhra Pradesh

Along with reservoir fishery program, this year we had initiated utilising small and seasonal water bodies as fish seed rearing unit. It was one of the first time experiences for all fish farmers, mostly from tribal communities. Fish seeds are grown in small waterbodies and also in Happa was a point of revelation for many of farmers. We started with modest numbers of pilot unit, but slowly it reached to a number of total 145 units across program area.

Our program implementation team provided all technical inputs and handholding support to farmers like, pond cleaning, lime application, fertilization, regular growth measurement etc.

More than 90 farmers used grown up fish seed to their own bigger ponds, or provided to cooperatives working with them. Some of the farmers sold fish seed to other nearby pond owners. Overall, during this process our team and community learned best management practices of seed rearing in seasonal water bodies.

We also made an attempt to grow seed in happa tied in cages. Although seed rearing in cages is never seen as a profitable venture, but we made an attempt to show case how similar effort can be useful for reservoir fishery program.

Area	Vishakhapatnam	Vizainagaram	Raelsheema region	Srikakulam	Total
No. of Nursery	95	35	10	5	145

Table : Total no. of nurseries in project area

After the successful intervention of this program, we analysed our effort has resulted into benefit of Rs. 1.21 Crore for the community during entire seed rearing process. Apart from monetary value, it reduced cost of seed transportation for individual farmers, locally acclimatised seed was available for nearby farmers, group members could stock good quality seed in their own ponds and people also learned that small and seasonal water bodies cannot provide livelihoods provided best management practices are adopted. Some of the farm pilot was unsuccessful due to lack of management practices or due to poor stocking practice.

Entire seed stocking pilot and seed rearing exercise took 3-4 months of duration. We had stocked 21.24 Crore spawn procured from a local hatchery to altogether 161 nursery including happa in cages. Pond management practices and Feeding to spawn was maintained by beneficiary. During seed rearing process, we achieved survival rate of 10.7% , although we had estimated for 15% survival. Evn a survival of more than 10 % was a big achievement for community members who were doing seed rearing for first time, and even for our field team it was a first time experience to manage at this scale.

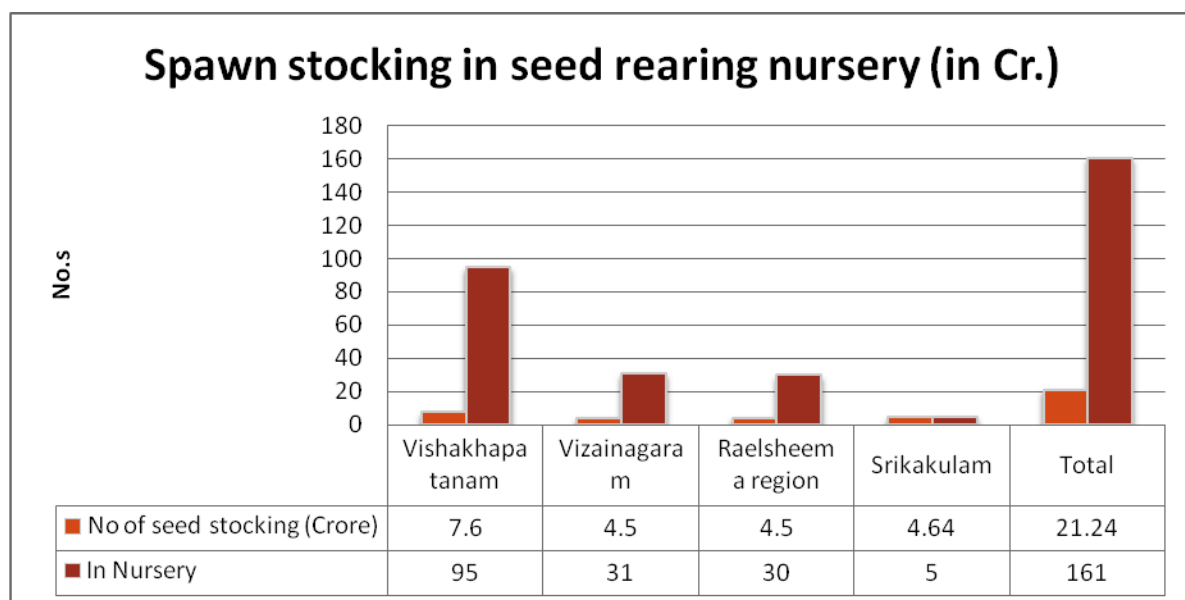


Fig. District wise seed (spawn) stocking (crore)**Learning from seed rearing pilot:**

- Small and seasonal waterbodies are productive resources, provided a management protocol is followed by farmers.
- Monetising collective actions are as important as monetizing value of products and services
- Engagements with farmers are more useful if proper demonstration is made along with their support.
- Gender integration in program needs to be addressed from initial program period.

Area	Vishakhapatnam	Vizainagaram	Raelsheema region	Srikakulam	Total
No. of Reservoirs	3	2	3	1	9

Table : Numbers of reservoir in project area

During year 1 of program, we had started with six numbers of reservoirs to support cooperatives in managing cage fishery and tilapia production. Now, we support farmer's cooperatives in nine locations. Paderu reservoir cooperative is one of the motivations for all of us in program team. We had provided technical training on how to build cages using local materials to nearly all fishery cooperatives. Krishi Vigyan Kendra, East Godavari hired services of fishery cooperative to build cages using local materials. Initially, contract was offered for building one cages, later considering quality of cages, KVK again issued one service contract to another fishery cooperative for building cages for them.

This was really a moment of triumph for all of us because within two years of project inception our team along with cooperatives provided a service to institution like KVK.

Institution development:

Community based aquatic resource management has emerged as a paradigm to involve users and to utilize indigenous institutional arrangements and knowledge in fisheries management. Under certain conditions, fishery based communities can regulate access and enforce rules through community institutions and social practices to ensure fisheries resource sustainability. Resource management has potential to improve the households' livelihood options and well-being in terms of access to social, political, physical, human and financial assets.

During last one year, we worked with more than 3700 fishery cooperative members in 47 co-operatives. Since most of the cooperatives are not aware of practices and system to be followed. So we started working with some selected cooperatives on following points,

- Organising monthly meetings
- Maintaining minute book, record keeping practices
- Members contribution
- Fishing rules and regulation
- Application for government program and scheme
- Engaging women members in meetings etc.

All these process helped community to function efficiently and make effort for timely stocking of reservoirs. in some places Cooperative members negotiated with existing traders for revised price of fish catch. Lie in Ananthapur fish catch rate was @45/Kg , after negotiation it went upto @75/Kg. similarly in Paderu reservoir , fish catch rate went upto @80 from Rs 55/Kg. It was also realised that, because of peoples regular representation and demand from department officials, most of the government scheme, seed stocking in reservoirs was regularized.

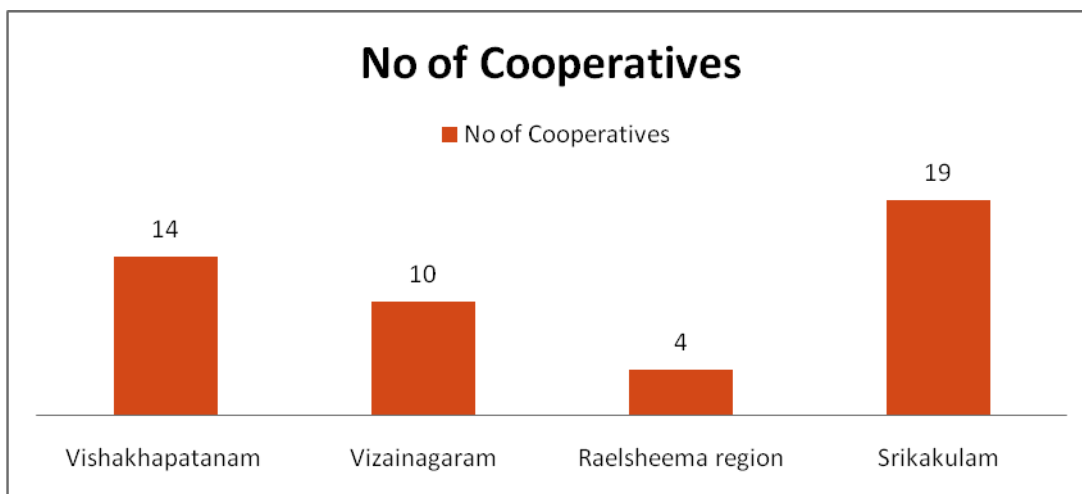


Fig. Numbers Fisheries Co-operatives in selected area

Area	Vizag	Vizainagaram	Raelseema	Vishkhaptanam	Total
No of Cooperatives	14	10	4	19	47
No of Cooperatives members	1000+	1000+	500+	1200+	3700+

Table : Numbers of members in fisheries co-operatives

The most important aspect of our community engagement part was to realise potential of women in fishery. We started working with local women's group members in fishery, and also facilitated for registration of new women's in fishery group. During 2017-18, we had engagement with more than 540 women of 22 womens group members. Some of the women group members started working on fishery based activity, but still most of the group members are inactive in terms of activity around value chain. Our strategy is to first engage with them and establish institutional governance and decision making system before entering into livelihood promotion related initiatives.

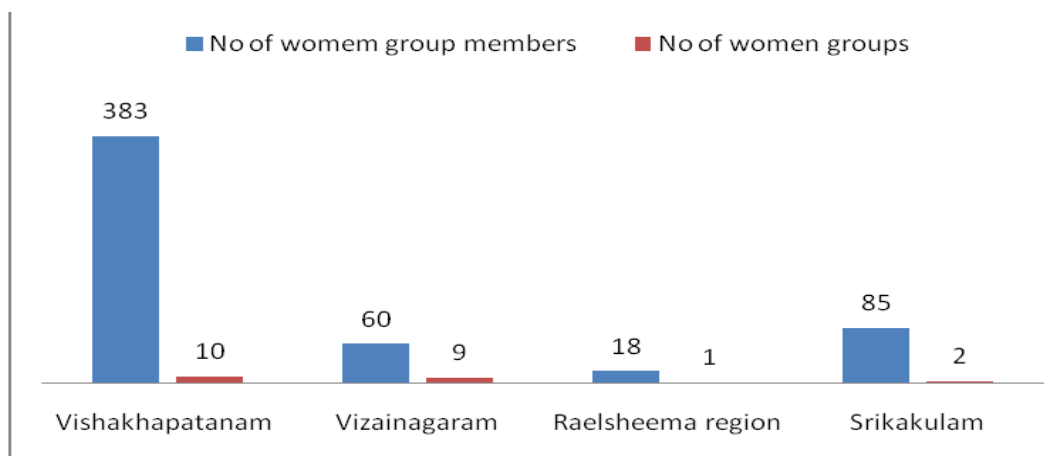


Fig. : Numbers of women members in women groups



Fig. seed distribution and stocking in pond

Gender in Fishery:

There is a reason why water bodies are considered a resource. From the water they provide to the many living organisms they support, water bodies are constantly supplying us with things essential to our survival. They also provide livelihood as this story of some enterprising tribal women in a remote village in Andhra Pradesh exemplifies. Until a few years ago, they were collecting and selling firewood from the forest for Rs 40 a day. After adopting fish rearing recently, they became so successful that they have begun to win laurels for their business exploits.

In Vizianagaram district's Pachipenta Mandal, near the state's border with Odisha, lies the nondescript Kodikallavalasa village. Bereft of any substantial development, it is close to the Peddagadda reservoir, a medium irrigation project built on a tributary of river Suvarnamukhi, which is a tributary of Nagavali.

Fish rearing was the occupation of the menfolk but they made very little out of it, just enough to eke out a living. Income from pisciculture was so low till then that even the president of the fisheries cooperative society, Kondal Rao was contemplating migrating to Chennai to make ends meet as a labourer. However, with sustained guidance on efficient ways of fish farming, the community saw a turnaround in its fortune. So much so that on December 4 , 2017 , six women of the local Neelammathalli Self-Help Group (SHG), led by Pakki Ratnalamma, received the award of Entrepreneur Of The Year instituted by the Central Institute of Freshwater Aquaculture, Bhubaneswar.





Fig. Seed rearing practices in pond and reservoir cages by woman groups

Harnessing the potential

Before start of fishery program in January 2016, members of fisheries cooperative societies were not making use of the fish rearing in reservoirs. During his conversation with members of the Neelammathalli SHG, after introduction of fishery program women were also suggested to take up the cage method of fish rearing. Initially, they were reluctant and it took much persuasion for about 40 women to attend a meeting with the district fisheries officer in March that year. To impress upon them the economic potential of inland fisheries, they were taken on an exposure visit to Dimbhe reservoir in Pune, Maharashtra. There, they saw how rural women had begun earning Rs 6,000-8,000 per month by following the NGO's recommendations. After the trip, 10 women from Kodikallavalasa showed interest in learning the method.

We organised trainings for them and showed them how to build a cage with locally available materials such as bamboo. Our field team educated women about constructing cages and about cage culture, its maintenance, ornamental fish rearing,

managing fish feed, disease management etc. With the aid of the state fisheries department, extensive capacity-building measures were taken and the women set about looking after a cage in rotational shifts. Their efforts began to yield results and they could spot maturing Rohu fish in the enclosure. However, they were unaware that when these fish grow in size, they would be capable of jumping out of the cage and to the reservoir. The women recognised the problem only after much of their fish stock disappeared. They held discussions and decided to use their old sarees to cover the cage.

Unfortunately, that was not the only time they encountered a setback. Not long ago, they had released 10 lakh fish spawn in a pond with government aid. But drought hit soon after, drying up the pond. The women had to transfer fish seeds to the cages. In fact, it was the first time that they were seeing a cage. With guidance from our team, they oversaw the growth of about one lakh sale-ready fish seeds but a drunk man, miffed with women's rising stature in his community, poisoned the enclosure and brought their progress to a screeching halt.

One of the women involved in fish rearing, Misala Bangaramma says that they almost gave up the venture after that episode. She says, “Once we got over the shock, we summoned our resolve to go ahead with the endeavour as that was the only way we could make a decent living and teach others how to do it for themselves.” They have also learnt rowing boat so that they won't ask men to help them to reach cages for feeding and cleaning of cages.

Learning by trial and error, the women of the SHG demonstrated perseverance, which paid off on October 9, 2017 when they sold 5,000 finger-sized young fish, weighing about 65 kg and earned Rs 10,800. Later this year same women group were part of a research pilot to standardise seed rearing in cages under guidance of ID insight research team. Although monetary wise this amount looks small but entire process has brought a new set of women leaders in community.

This is a remarkable journey for tribal women who had nothing to do with fisheries, yet ventured into this field, learnt the tricks of the trade and finally succeeded.

Capacity building programs:

Training, awareness camps, exposure visits, meeting with local officials, organizing cage making workshop etc were our tools for developing capacity of community members. Nearly 8 community leaders were provided support to attend a 3 months course on freshwater aquaculture in government training centre. More than 15 team members attended training programs in CIFA and CIFE on feed making, seed operation and overall fishery management related trainings.

Our team members also attended national level conference on fishery theme in CIFRI and CIFE where they had presented poster on reservoir fishery program.

We also organised stall in Jagriti yatra (train journey of social entrepreneurs) to show case fishery based interventions in Bangalore. Training on aquaponics system was also provided to some of the team members to understand new way of aquaculture practices.

Overall, we were engaged with more than 1500 participants during 32 field based training sessions. Our team members also provided training session for another NGO named as “Vikasha” in Vishakhapatnam area to start fishery based intervention with tribal farmers of Araku valley area. After first year of fish culture, now more than 150 farmers have adopted fish culture in Araku valley area with support of NGO “Vikasha”.

Apart from trainings, we did organised numbers of awareness programs on various issue related to fishery, fish seed rearing, livelihood programs, linkages with government initiatives etc. more than 2200 participant shad attended such awareness programs in program area. State government’s livelihood program – SERP has also engaged with fishery team in program area to develop community linkages and engage SHG in fishery based initiatives in selected blocks of Vijainagaram, Vishakhapatnam and Srikakulam districts. We are expecting a major boost in engagement with State governments program during coming monsoon period.

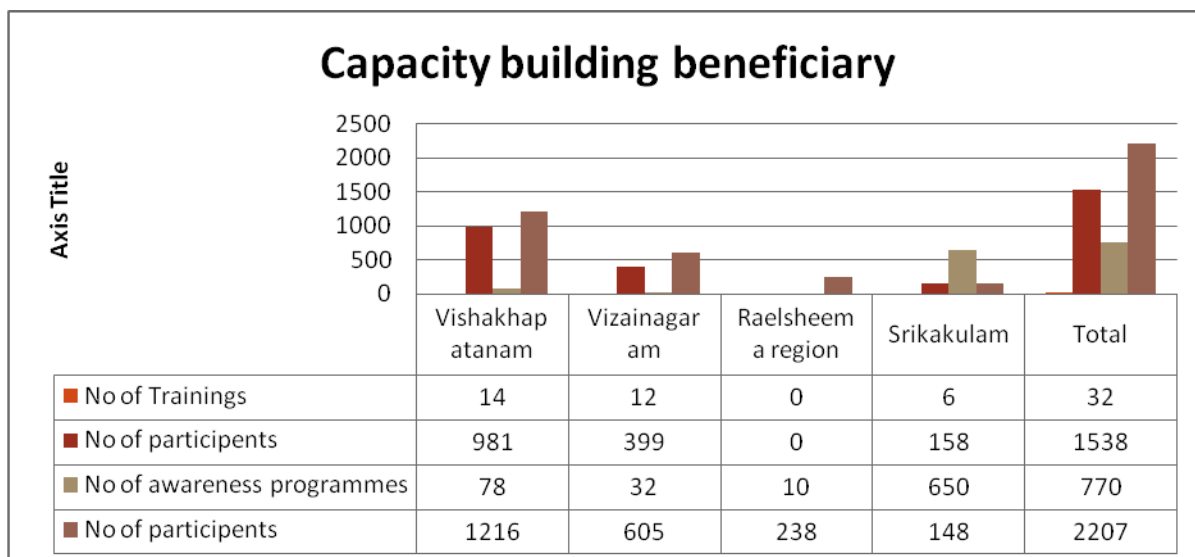


Fig. District wise capacity building beneficiary

As a part of our capacity building programs, we trained local community to build their own cages and boats in reservoir using local materials. Some of the community members have taken up these initiatives for fish seed rearing. Altogether, we had facilitated in installation of 60 local cages and 30 boats were provided to community. Boat making is an art and it can be developed as an enterprise. Based on the experiences and feedback from community, such interventions can be scaled up as a enterprise in coming years of program.



Fig. Capacity building of FCS and Woman groups

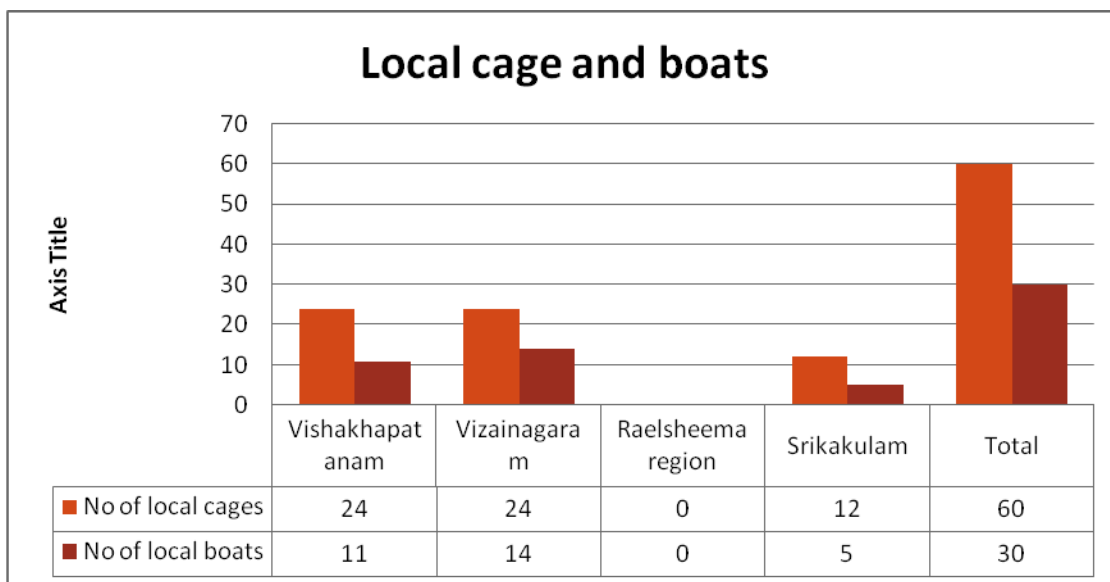


Fig. Numbers of installed cages and boats in project area



Fig. Cage making and installation

Major Highlight of Andhra Pradesh Fishery program (Open Source Fishery)

- Numbers of local cages installed: 60
- Numbers of boat distributed using local materials: 30
- Total spawn stocking (in Crore): 21.24
- Numbers of fish seed Nursery farmers : 161
- Engagement with numbers of cooperatives: 47
- Engagement with Numbers of women groups : 22
- Numbers of beneficiary received support /Government scheme: 680
- Numbers of training program : 32
- Numbers of training beneficiary: 1538
- Numbers of awareness program: 185

- Numbers of participants: 3500+

Bundelkhand Producer organisation Program:

Centre for Aquatic Livelihood Jaljeevika is facilitating promotion of Fishery Producer organisation in Bundelkhand part of Madhya Pradesh. At present, we are providing handholding support to 20 Fishery cooperatives to form a producer company. Fish culture activity in the Bundelkhand region comprise of culture-cum-capture techniques, which requires more emphasis on stocking of large fingerlings, technology transfer to the ground level and assistance in creation of infrastructure for developmental activities.

Tikamgarh district has more than 2000 Ponds, traditional fishing community is well aware of traditional knowledge but entire fishery sector is dependent of external contractors. These contractors pay them for fish seed, and take control of entire produce on lower than market rate. Regular drought since past 4-5 years is another challenge for fishing community. Jaljeevika has started a program to redefine village institutions (cooperative) as farmer producer company to sustain fish farmers income through various other integrated models like cultivation of water melon, musk melon etc on dried tank bed.

Such process has generated enough income for women in particular who do not migrate during summer time. During this financial year more than 50 womens started cultivation of melon crop, generated on an average 30-40,000 per person income.

The Fish farmers producer company is been proposed with objectives of “there should be proper marketing system of fish in the area and aboard” followed by “surety for availability of proper quality of fish seed”, “amount of subsidy should be increased and procedure to be made simple for availing subsidy scheme”, “strategy for water development is paramount important”, “proper information and technical guidance should be provided time to time through training of extension/ fisheries department”, “higher cost of fish feed, needs to be reduce” and “formulation and making of the Self Help Groups and cooperatives should be encouraged” respectively.

The economic benefit has resulted in other innovations like fish seed hatchery installation, farming in drawn area, with fisherman taking control over tanks, there was a huge demand for fish seedlings. But still most of the farmers buy seed from Uttar Pradesh and Kolkata. Jaljeevika has ensured one mini hatchery from CIFA, Bhubneshwar that will be installed this year. We are expecting this hatchery will take care of waterbodies exists in Prithvipur blocks.

Along with Fishery and pond based agriculture development, we are also promoting azolla farming in scale that will be used for cattle feed in drought hit Bundelkhand area.



Major highlights of Bundelkhand program:

- Bundelkhand program is self supported by internal resource of CAL Jaljeevika. We are considering it as a pilot intervention on climate resilient pond based livelihood system and eco system protocol that can be scaled up in drought hit area.
- Community collectives under guidance of producer organisations, contributed resources from each members and de-siltation / deepening of 6 ponds took place in Tikamgarh district. Such effort is preparation before onset of monsoon.
- Total 56 women and fish farmers did collective farming on dried pond bed, raised income of each family by Rs. 38000 (Average) during summer crop period.
- 180 Farmers has joined together to set up fish seed rearing enterprise during monsoon period.
- CIFA, Bhubneshwar has provided one mini hatchery for the program.
- 6 fishery cooperatives have started collective farming during dried period for wheat, Mustard and other vegetables.

Maharashtra Program:

Centre for Aquatic Livelihood Jaljeevika is supporting Shaswat Trust based in Pune for developing aquatic livelihood modules for tribals and fish farming community members. As a first phase of program, we have supported to install low cost cages, boats constructions, aqua-geoponics installation, and ornamental fish enterprise for women group members.

We are also developing IT related capacity in producer organisation for daily updation as well as market linkages.



We have facilitated to develop a new farmers producer company in Dimbhe , comprising cooperative members to engage in multi product service and produces from fishery, forest based and agriculture produces.

This producer company is in nascent stage, we are helping them to develop institutional governance system, market exposure, linkages with market and institutions like DICCI. We organise a regular training courses for the members of Producer Company to develop their larger perspective and value for open market system. FPO's is formed which are aimed to replace/remove the middlemen involved in fish marketing, thereby ensuring higher returns to fishermen and hygienic fishes to consumers at affordable prices. Presently, FPO's pool their fish catch and market directly to the local wholesale market, retail outlets and other sources. Along with fishes direct sale to

consumer of whole sale traders, this FPO will also provide inputs like brooder, net, happa, dried fishes, and locally made feed to other fishery groups in nearby Pune region.

Centre for aquatic Livelihood- Jaljeevika has created linkages with District tribal department and FPO to install rice polishing mills, set up aqua tourism, and create local business for women members of this group. Although entire program is in initial phases but we are very sure with engagement of more stakeholders in group , this FPO will develop a unique propositions in Pune region.

This program was started with Dimbhe dam, but slowly now idea is scaled up to nearby 5 reservoirs of Pune region. Initially these cooperative members were just doing IMC catch, but within this program they are moving to Azolla cultivation for dairy farmers and culture of Pungasius catfish for raising regular working capital of the group.

Bihar Flood Relieve program:

Flood is a regular havoc for people of Uttar Pradesh, Bihar and North East during and after monsoon. Flood during month of August-September 2017 in Bihar was one of the real challenges for more than 1800 affected villages. The worst affected districts were the Kosi belt of Seemanchal; the Baghmata-Gandak belt comprising Tirhut-Mithila are affected only a little less in terms of the devastation and deaths. This time the Bihar floods are killing an unprecedentedly larger number of people. Over that fortnight, 514 people in Bihar died. The water spread across an area of 21 districts with over 17 million residents. It was the state's most deadly flood since 2008.

New areas are being threatened by inundation. Climate change has made the monsoon harder to predict and more intense, including in areas where it was once relatively mild. Newly built infrastructure, meanwhile, has not been designed to cope with floodwaters. And the state's strategies to mitigate the effects of flooding have not been updated for centuries.

Jaljeevika made a crowd funding call on Ketto platform that helped us to raise resources to support affected community with safe drinking water kit.

We had distributed nearly 150 high quality water filtration kit and one hand pump with pre installed filtration membrane. We had distributed all relief material (Water filter) in district of Madhubani, Darbhanga, West Champaran (Bihar) and Bahraich district in Uttar Pradesh.

It has saved hundreds of family from using contaminated drinking water. In some places, like in Darbhanga district of Bihar, Women SHG members used this filter system to purify drinking water for entire group members.

So although we had distributed only 150 Water purifier system, but it has helped to provide safe and clean drinking water to more than 500 households.

Self Help Group (SHG) members from Darbhanga and Madhubani used this system to provide safe drinking water in Anganwari centres for children's. Although there was a great demand of our membrane based water purifier, but we could not distribute more due to resource constraint.

As a team we have decided to provide kit for safe drinking water during emergency situation in India.

Dr. Bhanu Mall, PGVS, Lucknow said ***“This high technology based water purifier has saved health issue for more than 2-3 nearby villages where hand pump with RO membrane is installed. Even after flood situation, people are using this hand pump for drinking water facility”***





- No of Water purifier Kit Supplied: 150
- No of Household supported: 150
- No of Hand pump with RO purification membrane installed: 1
- Partnership with No. Of NGO for relief distribution: 4
- No of District in relief program: 4
- No's of SHG women groups received Kit: 15

Partner agency:

- 1 Tata Trusts
- 2 Shashwat Trust
- 3 Vikalp