

REVITALIZING RESOURCES & COMMUNITIES

ANNUAL REPORT

2019
2020







Revitalizing Resources and Communities

ANNUAL REPORT 2019 - 2020

Cover Illustration

Sreekanth M (WASSAN)

Photo Credits

WASSAN Field Team

Address

Watershed Support Services and Activities Network (WASSAN)

Plot Nos. 685 & 686, Road No 12,

Narasimha Swamy Colony, Nagole,

Hyderabad –500 068, Telangana, India

☎ +91 (040) 29555295

✉ mail@wassan.org

🌐 www.wassan.org

Facebook: <https://www.facebook.com/WASSANIndia>

Twitter: <https://twitter.com/wassanindia>



Index...

Vision, Values -
Board of Governance

1

A Fulfilling Year ...
2019-2020 in a Retrospect

2

Impact on Vulnerable Communities

4

Engagement at Scale: At a Glance

5





Networking for Revitalising Rainfed Agriculture Network (RRA Network)

8



March towards 'Millets to Millions'

13



Promoting Productive Usage of Water in Rainfed & Dryland Areas

24



Integrating Livestock, Poultry and Fisheries into Farming

29



Strengthening Diversity: Protecting Local Seeds and Breeds

41



Building and Strengthening Community Level Institutions and Enterprises

46

Making Farm Work Easy: Innovations in Farm Equipment and Mechanisation

49

Annual Financial Statement

53

Partners and Collaborators

57

Vision, Values

VISION

"Entrench participatory processes through a network approach that strengthens NRM practices, to secure livelihoods of deprived communities in drought prone areas"

Participatory Processes include



Capacity building



Institutional development



Networking



Advocacy

VALUES



Being sensitive and committed to reduce all forms of discrimination with focus on Poor, Dalit, Adivasis and Women.

Having faith in people's knowledge capacities and their institutions



Developing synergies through networking

Striving for quality, innovation and diversity



With transparency

Board of Governance

CHAIRMAN



Y.V. Malla Reddy

MEMBERS



Dr. V. Rukmini Rao



Gagan Sethi



C. Uday Shankar



P. Balaram



K. Suresh



A Fulfilling Year...



2019 - 2020 in a Retrospect

This year was a more fulfilling year for WASSAN in reaching out to the communities on the margin - the Tribal communities, the drought and distressed farmers in the drylands of the three states viz., Telangana, Andhra Pradesh & Odisha. Reaching out to lakhs of households in different pathways, WASSAN team could bring in some cheer & happiness to these marginalised communities in geographies that have abundance of natural resources.

Much greater civic engagement and outreach is achieved through networking across 10 states involving several CSOs on issues of highly vulnerable rainfed agriculture. Partnerships with Governments of Odisha, Andhra Pradesh, Telangana were further strengthened in bringing in innovative and impactful approaches for development of agriculture, water, natural resources management, community institutions and livelihoods. Odisha Millet Mission (OMM), Andhra Pradesh Drought Mitigation Project (APDMP), Community Managed Seed Systems (CMSS), Climate Resilient Zero Budget Natural Farming (CRZBNF) in several of these mainstream programs WASSAN played a key role in bringing public investments to the deprived communities and rainfed geographies.

Very positive experiences in Natural Farming emerged during the year. Doubling of yields of finger millet from about 4 quintals per acre to about 8 to 10 quintals in the tribal regions with less inputs (and no chemicals) has become a point of celebration. For the first time in history, a finger millet procurement centre is opened in Janbai, the most interior tribal area cut-off from the mainstream in Malkangiri district of Odisha. Transition to Agroecology / natural farming as an approach to watershed development looks more promising with these emerging experiences, improvising WASSAN's own narrative of watershed development evolved over the last 20 years of our work.

Partnership with National Rainfed Areas Authority (NRAA) of Govt of India has further strengthened with joint initiatives including co-hosting of the workshop following up on the national commitments made to UNCCD; and WASSAN playing a role in the development of New Generation watershed development program guidelines. NRAA recognised RRA Network and WASSAN as its Knowledge Partner. Collaboration with Food and Agriculture Organisation (FAO) of the UN, research partnership with Commonwealth Scientific and Industrial Organisation (CSIRO -Australia) and others evolved into applied action-research programs.

This year also made big inroads on Biodiversity- both agriculture and livestock. Telangana state's first ever indigenous cattle breed registered with support from WASSAN and ICAR-NBAGR. Agri-biodiversity Blocks evolved in partnership with RySS and in Odisha Millets Mission.

Making farm labour more productive and making work easy for women farm-workers is an area of utmost importance in making small holder agriculture viable. This year saw emergence of

WASSAN's focus on developing implements, tools and small machines with renewable energy with support from the Sustain+ program. Promising new technologies are on the horizon. 'Farm Easy' also evolved as a sub-entity in the WASSAN group of institutions to support and promote small rural enterprises in making such equipment.

The year ended up with the Covid 19 crisis looming large over the country; more so, on the communities that we work with. WASSAN, has engaged with several other CSOs in the country in springing to action and mobilising resources to meet the immediate relief to migrant workers stranded in Hyderabad and other places. Plans are made to reach out to the tribal communities in the most interior areas that we are working with.





Impacting Vulnerable Communities

While the larger institutional mandate of WASSAN is to engage with mainstream and build capacities for larger impact, our learning and inspiration comes from our direct engagement with the communities in fragile ecosystems – the rainfed drylands and the tribal areas. The following gives an overview on WASSAN's work with communities in this year.

WASSAN works directly with various Tribal communities in the north coastal Andhra Pradesh, Adilabad, Asifabad, Bhadradi Kothagudem, Ashwaraopeta districts of Telangana and with the dryland farmers of Anantapuramu and Chittoor districts of Andhra Pradesh. The engagement is primarily on developing their natural resources, improving their farming systems, diversify food crops to increase household food and nutrition security. The work spans 12 districts and touches lives of over 50000 households.

Single women households were organised into groups in Karimnagar district of Telangana. They were trained in making and selling millets based products; the district administration provided them necessary support in linking them with their nutrition programs. Similar efforts of women groups also came up in the other tribal areas.

A larger engagement in the interior areas of Malkangiri district of Odisha helped communities in getting access to irrigation, improve agriculture and livestock. The work is intensive and is in collaboration with the District Administration.

WASSAN directly supports farmers organisations in improving services and marketing. Support was extended to over 8 farmers producers organisations in Vikarabad, Asifabad and Ashwaraopet districts of Telangana and in Anantapur district of Andhra Pradesh. The support was in the form of capacity building, linkages with formal credit institutions, technical support and in accessing markets.

Engagement at Scale: At a Glance

A core mandate of WASSAN is to provide a civil society and government interface for improving mainstream government programs and investments in their design and implementation to become more effective and inclusive of the poor and marginalised communities. The following provides a gist of the initiatives in this direction.

1

ODISHA MILLETS MISSION (OMM)

Reviving millets in the farms and on the food cultures of the people is promoted at a large scale covering 71 Blocks in 14 districts in Odisha under this program of the Government of Odisha; WASSAN supports the program in its design, policy development, capacity building and monitoring as its Program Secretariat.

2

INTEGRATED FARMING SYSTEMS PROGRAM

Evolved from the RRA Network's comprehensive pilots, this program taken up by the Government of Odisha brings in a comprehensive revival of the rainfed production systems in an integrated way; it is implemented by CSOs in the district and targets thousands of families in the most interior Malkangiri district of Odisha. WASSAN supports this initiative as its Program Secretariat.

3

ANDHRA PRADESH DROUGHT MITIGATION PROJECT

This program evolved with concerted efforts of WASSAN with the Ministry of Agriculture, Government of Andhra Pradesh and is supported by IFAD (International Fund for Agricultural Development). The program envisages to impact 1.60 lakh farmer households in 5 dryland districts bringing growth and climate resilience in their farming systems. WASSAN supports the program as the Lead Technical Agency; the program is implemented by 35 CSOs.

4

GIRI KODI: STRENGTHENING DESI BACKYARD POULTRY IN TRIBAL AREAS

The program taken up in collaboration with the Tribal Welfare Department of Government of Andhra Pradesh in reviving backyard poultry with native breeds in 15000 households in the Tribal areas of the North Coastal Andhra Pradesh. WASSAN provides program design, technical and capacity building support to the Tribal communities and monitoring support to the Department.

5

ANDHRA PRADESH COMMUNITY MANAGED NATURAL FARMING PROGRAM (APCNF)

WASSAN is one of the lead Resource Support Organization for this program of the Government of Andhra Pradesh implemented by Rythu Sadhikara Samstha (RySS). WASSAN works in 25 clusters with an outreach of 4000 families in the Tribal areas and drylands to expand the scope of Natural Farming to landscape level and bringing in innovations. The focus is on improving productivity, diversification of farming systems and in evolving indigenous seed systems. The innovations are taken across the APCNF program in terms of scaling up. WASSAN is supported by Azim Premji Philanthropic Initiatives (APPI) in this program.

6

COMPREHENSIVE REVIVAL OF MILLETS PROGRAM

This program was taken up with Department of Agriculture, Government of Andhra Pradesh. The objective of the program is revival of millets in production systems and consumption in the Tribal areas and also in 2 districts of Rayalaseema. Several civil society organizations are partnering with this program.

7

COMMUNITY MANAGED SEED SYSTEMS (CMSS)

CMSS program is in partnership of 62 Farmer Producer Organisations (FPOs) with the Department of Agriculture, Government of Andhra Pradesh and AP State Seed Development Corporation (APSSDC). This program is taken up in Anantapur and Chittoor districts to facilitate production, certification and supply of quality seeds for subsidized distribution of the Government. 40000 quintals of groundnut seed were procured by the FPOs and supplied. WASSAN supported the FPOs; about 36 CSOs involved in this program.

8

AGRI-BIODIVERSITY

From Navadhanya to millets, the efforts on promoting crop systems diversity has reached a new perfection in the collaborative program with APCNF, Government of Andhra Pradesh. 7 Biodiversity Blocks are established in partnership with CSOs in different agro-climatic regions. The process of systematic screening of landraces, their selection by farmers, purification and multiplication have been standardized. In Odisha Millets Mission and APCNF, such processes have now reached a stage to release the landraces as farmer's varieties.

9

SECURING CROPS AGAINST DROUGHTS THROUGH GROUNDWATER COLLECTIVIZATION

This program is taken up with support of the Department of Agriculture, Andhra Pradesh. It is designed to scale up the successful pilots on collectivization of groundwater by pooling borewells in an area for providing access to life saving irrigation for rainfed crops of both borewell owning and rainfed farmers. With about 1500 acres area adding up, a total of 3000 acres was now covered in 28 villages with 38 farmers' groups.

10

ANAVIKA : REVIVING MILLETS IN TRIBAL AREAS IN MAHARASHTRA

The program initiated by Pragati Abhiyan with WASSAN's support and in collaboration with the Tribal Welfare department of Maharashtra proved eminently successful with yields increasing from 2.5 q/ac to about 6 to 7 q/acre on an average in 1973 upland tribal farmers fields in Nashik, Thane and Palghar districts of Maharashtra.

11

REVITALISING RAINFED AGRICULTURE NETWORK (RRA N)

WASSAN anchors the Network Hub of the RRA N; the network has grown over time with about 600 members to its google group. RRA N is a larger civic engagement with CSOs, national, state and district governments in 10 states on the issues of rainfed areas that focusses on need for bringing in more public investments for its development. This initiative is supported by the Ford Foundation with FWWB acting as the grant manager. State chapters of RRA N are furthering the agenda actively in Himachal Pradesh, Maharashtra and Karnataka.





Networking for Revitalising Rainfed Agriculture Network (RRA Network)



RRA Network (RRA-N) has evolved into a large platform for civic engagement on the issues constraining rainfed agriculture; with over 300 organisations being part of it and membership of the platform reaching around 600 - the RRA network platform brings civil-society organizations, scientific community, policy makers, farmers' organisations across India. 105 new members joined this sharing platform. WASSAN hosts the Network Hub of the RRA network.

1.1. Policy Processes

RRA Network has engaged with policy deliberation with key stakeholders in several aspects of Rainfed Agriculture at National and State level.

A one-day national consultation on **Invest on Land for Life: Policy Framework for Land Degradation Neutrality (LDN) in Rainfed Areas - Post UNCCD COP 14** was organised by National Rainfed Area Authority (NRAA), Ministry of Agriculture and Farmers Welfare, Revitalising Rainfed Agriculture (RRA) Network and GIZ on 23rd September, 2019 at NASC Complex Lecture Hall, New Delhi. The Consultation focused on **five sessions**.

The **FIRST SESSION** discussed the challenges of rainfed areas and role of NRAA in addressing these issues. The inaugural address was presented by Shri Roulkhumlien Buhiril, Secretary, DoLR. Dr. Ashok Dalwai, CEO, NRAA

SECOND SESSION dealt with Watershed Management and Land Degradation Neutrality.

THIRD SESSION was on Land Degradation Neutrality (LDN) and Soil Conservation.

FOURTH SESSION focused on Investment on Land Degradation Neutrality (LDN).

FIFTH SESSION: Summary of issues were flagged and way forward was discussed.

Each Session ended with open house discussion for valuable inputs from the participants.

The consultation was attended by around 100 participants, included representatives of Government (~40), CSOs (~30), Farmers (~15), International Organisations (~6), Donors / Banks (6), Researchers (3) and the

Consultations for UNCCD Meeting



The RRA Network, upon invitation, submitted its recommendations to the **Committee on National Water Policy** in December 2019. The policy recommendations were based on the work of the Network for over a decade across the major rainfed states of India. The primary recommendation of the RRA Network is to institute a differentiated water policy for rainfed areas within the National Water Policy, which include maintaining parity of investments on water resources, establishing a Department of Water Resources within the Jal Shakti Ministry, and to take up a comprehensive and integrated view of soil moisture with improving Rainfall Use Efficiency as a metric to measure success.

The RRA Network has provided major inputs for evolving guidelines for “New Generation Watershed.” Participatory Watershed and Springshed Development at the national level is a core aspect of RRA Network's work. Watershed guidelines were last amended in 2011 as Integrated Water Management Program (IWMP). This effort was made as the Department of Land Resources (DoLR), Government of India requested NRAA to review and suggest the future course of watershed development programs.

1.2. Networking

Organized in February 2020. Mulakath reinforced the commitment of network members on the rainfed agenda. 80 members of the Network from 40 different organizations spanning across several states in the country have participated in the RRA Strategy Consultation meeting, apart from the representatives from National Rainfed Area Authority (NRAA), Food & Agriculture Organization (FAO) and the Ford Foundation. RRA N Board presented its achievements.



Mulakath: RRA Strategy Consultation meeting

Results of a sample survey of 75 members (out of 550 Network Members) suggested a broad agreement amongst the members that RRA Network has become an important space for policy deliberations amongst civil society contributing to policy development at various levels (RRA- N Survey Report). In this strategy workshop, activities of various thematic working groups and the state chapters were shared; cross learning, inter working group and state chapters support mechanism were discussed and strategies for policy impacts were deliberated by the members.

1.3. Facilitating Theme based Working Groups & State Chapters

RRA-Network hub facilitated the process of evolving 7 Thematic Working Groups on the issues of Seed Systems, Water, Soil, Millets, Agro-ecology, Market & Institutions and on issues related IFR & CFR lands under Forest Rights Act. Each of these working groups has its own functional approach with specific objective. The State Network Groups also evolved in Maharashtra, Karnataka and Himachal Pradesh.

1.4. Capacity Building

Capacitating Cadre of Young Professionals: Developing Young Professionals with capacities to articulate and further RRA agenda is a program initiated by RRA N. 6 Young Professionals were selected in the second batch and placed with RRA N's member organizations to work on a thematic area or support a state network. Network hub is mentoring some of these people and also contributed to the course.

1.5. Key Achievements of RRA Network

Represented in formulation of National Water Policy and contributed towards drafting New Watershed Guidelines

Cumulatively, Network Hub [RRA N] was instrumental in mobilizing nearly **Rs. 2000 Crores** of public investments which roughly benefits **600,000 families**, spanning over **51 districts** in Himachal Pradesh, Maharashtra, Odisha, Chhattisgarh, Telangana and Andhra Pradesh.



Besides providing support & capacity building of thematic and state network groups, Network Hub also contributed towards other RRA-N projects. They are:

- Initiatives on Camel Milk in Rajasthan
- Revitalizing rainfed agriculture in tribal junction, covering Rajasthan, Madhya Pradesh and Gujarat
- Sustainable Rainfed Agriculture Development in Bundelkhand region of Madhya Pradesh



"RRA Network membership has gone up significantly; state network groups and thematic working groups have been set up to take rainfed agriculture agenda forward, and new coalitions / partnerships have taken shape... WASSAN has played a critical role in all these and immensely contributed to the growth of RRA Network..."



- Gagan Sethi, Chairman of the RRA Network,
at the RRA Strategy Consultation, held in February, 2020

Impact by Numbers



600+
Members



63+
State and
Working group
membership



160+
CSO members
actively
involved in
RRA Agenda



11
RRA Network
has engaged in
state and
national policies



2000+ Cr
Leveraged
Public Investment in
Rainfed Agenda



56
Rainfed districts
covered under
mainstream
program



6+ lakhs
Rainfed farmers
impacted through
mainstream program

March towards 'Millets to Millions'



Reviving millets both in '**Farms & Plates**' – in rainfed crop systems and consumption - helps in addressing multiple objectives such as nutritional security, crop diversity and resilience to climate vulnerabilities and droughts. Reaching out millets to million farmers and consumers and their introduction into state nutrition programs, improving productivity, better price realization, improved public procurement and promoting decentralized processing enterprises have evolved as essential strategic elements of this effort.

2.1. Initiatives of Working Group on Millets (WGoM) under RRA Network

Major Achievements

- Recognition as Technical Partner by Niti Aayog, the highest policy making body in the country
- Initiation of a pilot in 3 districts of Telangana with Niti Aayog
- Recognition as a Resource Organisation by Women and Child Welfare Department of Telangana Government
- Submission of civil society recommendations on NFSM Nutri-Cereal Scheme to MoA-NRAA through National Round Table
- Networking and undertaking capacity building initiatives for NGOs in several states like Maharashtra, Gujarat, Rajasthan, Jharkhand and Madhya Pradesh.
- Providing inputs to Government of Madhya Pradesh in their Mission on Millets & Coarse Cereals
- Support to Government of Chhattisgarh on integrating Millets in ICDS.

A national level Working Group on Millets (WGoM) emerged out of discussion in the National Convention on Rainfed Agriculture held on 14th February 2019, organised by the RRA Network. Building a coalition and development of joint proposals with Government, Donors and CSR through consultations/meetings; strengthening the group with increased membership, taking up capacity building and advocacy initiatives in 3 states; developing standard material for processing machines and appropriate procurement protocols for inclusion of millets in PDS and ICDS etc., promotion of agro-biodiversity and alternate seed systems for millet seed production are the focus areas. Appropriate pilots/studies for advocacy and knowledge dissemination are being underway for influencing policy through evidence-based design.

An effort is on to bring out a status report on acceptance of millets in PDS in Karnataka to challenge the popular notion that there is less acceptance of Ragi in PDS. A community perception study is being taken up on acceptance of foxtail millet and other minor millets in ICDS/other government schemes. A study on capacity building requirements issues surrounding millet processing problems at federation and private players' level is also being planned.



2.2. Odisha Millets Mission (www.milletsoodisha.com)

The Special Programme for Promotion of Millets in Tribal Areas of Odisha (Odisha Millets Mission) was launched by Department of Agriculture & Farmers Empowerment, Government of Odisha in 2017 to revive millets in farms and plates. It was initiated in 30 blocks covering 7 districts with a budget of Rs 65.54 Cr for 5 years. With the growing success the program was expanded to 72 blocks covering 14 districts and budget increased Rs 536.98 Crores, of which Rs 313.06 Cr was for procurement and distribution of Ragi in PDS and ICDS. The entire programme was funded through the state plan.

The core focus of the program is to promote millets in consumption, improving area and productivity through agroecological approaches, promote decentralised processing, market development, assured price and procurement; on the platforms of FPOs with Block as a unit.

WASSAN is partnering as the Programme Secretariat for Odisha Millets Mission and works closely with NCDS, the Research Secretariat. As Program Secretariat WASSAN is involved in policy development, liaison, coordination and capacity building of partner CSOs, communication and monitoring of the program.

Area Coverage under Improved Agronomic Practices

During Kharif (2019-20), 51258 farmers were supported to take up improved agronomic practices under millets; with a cumulative of 89168 adopting agronomic practices like System of Millet Intensification (SMI), Line Transplanting (LT) and Line Sowing (LS).

14

Districts

72

Blocks

51258

Total farmers

21035

Total Area (Ha) covered

Crop wise coverage (Ha) - Kharif 2019-20



18427

Finger millet



408.1

Foxtail millet



349.4

Sorghum



32.8

Barnyard millet



61.8

Pearl millet

419.7

Inter cropping

Ragi Procurement at Minimum Support Price (MSP)

- A Policy Breakthrough

WASSAN team played an important role in evolving the ragi procurement policy and guidelines involving TDCOL as the State Procurement Agency. Procurement operations expanded from 8 districts to 14 districts this year. Ragi procured was distributed under PDS and ICDS as per the decision of the High Power Committee on Millets.

1,00,000

**Quintals -
Target of
Procurement**

94,691.6

**Quintals - Finger
Millet procured
from 23238 Farmers**

29.38

**INR (Crores)
Total value of
Procurement**

Promotional Events

Intensive campaign was taken up to promote consumption and create a general awareness on nutritional benefits of millets targeting specific groups. Food Festivals, Eat Millet Campaign, Urban Awareness / Promotional Events, Canopy Stalls, Millet Food Stalls, Mandia Cafes, Exhibition Stalls with Recipes etc. are part of such large promotional events. These were designed and promoted by WASSAN team along with the partner CSOs. Adding to this, local NGOs organized 5 events in each block.



24

**No. of large
promotional
events**

117

**Total Number of Event
days**

4,00,000

**Total Number of
people reached out**



Nutritional Analysis of Millets Recipes

An initiative was taken up in collaboration with CSIR-CFTRI to identify suitable millet recipes and their nutritional analysis. This was financially supported by the District Mineral Fund- Keonjhar. Based on the results of this analysis, Collector & District Magistrate approved inclusion of Ragi Laddu in ICDS, as morning snack for children between 3 to 6 years.

Promotion of Farmer Producer Organisations (FPOs)

FPOs were promoted in each block for strengthening community involvement in programme implementation and better outreach to farmers, particularly for increasing their access to farm services and markets. 38 FPOs have been registered out of 72 blocks. In other blocks, community mobilization, concept seeding and raising share capital is going on.

Participatory Varietal Trials - Quality Seed Production

Under these experimental trials, local varieties of Ragi collected in the Blocks and the varieties released by the Government of Odisha were taken up for participatory varietal trials. The trials were conducted successfully in 38 blocks; a total of 302 traditional varieties and 42 improved varieties were tested. 85% of the traditional varieties selected by farmers were under agronomic analysis by researchers. Finally, 76 varieties were selected for seed production during the next Kharif.

During the year, 14 varieties (12 traditional and 2 improved) were taken up for quality seed production in an area of 29 acres, of 5 districts. These varieties are selected from Participatory Variety Trials. A total of 8949 kg of quality seeds is stocked in Community Managed Seed Centres for distribution (on sale basis) to seed farmers. The protocols for these were developed; entire program was designed and implemented by the team with support from partners.

Connecting Remote Farmers—Enabling Ragi Procurement

Ragi Mandi - A First of Its Kind Initiative



Honourable Minister of Agriculture,
FARD and Higher Education,
Dr. Arun Kumar Sahoo, inaugurating
Ragi Mandi

Progressive millet farmer is being
honoured by Honourable Minister of
Agriculture, FARD and Higher Education,
Dr. Arun Kumar Sahoo



A first of its kind, Ragi Mandi was inaugurated in Badapada Gram Panchayat of Chithrakonda Block on 23rd December 2019; This is one of the historic developments to have happened in cut off tribal areas of Malkangiri District, for ensuring procurement of Ragi from the remote tribal farmers. It is made possible with 'Gurupriya Setu' constructed under 'Swabhiman Anchal' program; it enabled to connect 30000 tribals from 151 villages to mainland, after being cut off for nearly six decades. On the auspicious occasion of National Farmers' Day, Dr. Arun Kumar Sahoo, Honourable Minister of Agriculture, Government of Odisha inaugurated the Ragi Mandi. More than 390 tribal farmers came to Mandi and sold their produce @ 31.50/- per kg. Earlier they used to sell it at the rate of Rs 15-18 per kg through middle men/ traders. A total quantity of 102 quintals was procured on the first day itself. This Mandi will surely reduce the distress sale of Ragi, considered to be one of the critical problems these poor tribal farmers face in this area.

It is also a moment for celebration for WASSAN team too! Starting its work on watershed development in these areas nearly a decade back in more difficult circumstances, the team sees a great progress and cherishes its own little contribution to the lives of tribal communities in this area.

"Odisha Millets Mission is one of the flagship program on Millets for addressing issues related to agronomic practices, primary processing, distress sale, malnutrition etc., Now farmers can say 'No' to Middlemen and traders and avoid distress sale"

- Dr. Arun Kumar Sahoo,
Honourable Minister of Agriculture,
FARD and Higher Education

"Odisha Millets Mission and Integrated farming have yielded very good results; they helped in improving the productivity, nutrition and also in reducing distress sale"

- Shri Manish Agarwal, /AS,
Collector & District Magistrate,
Malkangiri, Odisha



Recognition and Impact

Niti Aayog has chosen Odisha and Karnataka as two progressive models; decided to facilitate the expansion of the learnings of these states in other states.

1

Government of India has set up a task force to understand the framework of Odisha Millets Mission; objective is to revise the recommendation of National Sub Mission on Millets based on the learnings of the OMM.

2

Government of India has asked all the states to adopt the model of Odisha Millets Mission for promotion of millets, pulses and oilseeds.

3

State Planning Commission of Chhattisgarh suggested Government of Chhattisgarh to start a Millet Mission on the lines of 'Odisha Millets Mission'

4

Governor of Maharashtra suggested Maharashtra Government to explore initiating a project on Millets considering the model of Odisha Millets Mission.

5

Cambridge University partnered with Odisha Millets Mission to explore possibility of looking at OMM design as an alternative to Green Revolution framework.

6

The UN-IFAD and UN-FAO have endorsed the framework of Odisha Millets Mission as suitable for taking up agro ecological initiatives.

7

2.3. Millets in Community Managed Natural Farming

Andhra Pradesh Zero Budget Natural Farming, APZBNF, renamed as AP Community Managed Natural Farming (APCNF), is a flagship program of Government of AP in promoting natural farming. Several pilot initiatives were taken up on Guli Ragi in the Comprehensive Revival of Millets Program supported by the Department of Agriculture, Andhra Pradesh.

Seeing the success, the program is upscaled to 60 ZBNF clusters in 4 districts of north tribal areas during this year. The program is also taken up in Chittoor and Ananthapuramu districts of Rayalaseema regions.

A combination of SRI, Guli (a traditional method in Karnataka) and natural farming methods have shown to break the yield barriers in northern tribal areas and drylands of AP; taken up under the program- Climate Resilient Zero Budget Natural Farming with support from RySS (Government of Andhra Pradesh) and Azim Premji Philanthropic Initiatives.

Program Reach

6

Districts

1736

Acres

2387

Total farmers



- ① Yield increase: About 4 qt / ac to 8 qt / ac
- ② Profuse tillering; ZBNF, SRI & Guli practices
- ③ Rs 20000/acre gross income; no chemical inputs
- ④ Use of bullocks in weeding - saving labour

The natural farming method has resulted in doubling of crop yield in Ragi. A sample of crop cutting experiments in 113 plots showed an incremental yield gain of 4 quintals per acre (from an average of 4 qt/ ac to 8 qt/ ac); the outliers are at 15 to 16 qt per acre - without any external inputs. The following improvisations were brought in.

- ❶ Raising alternate nurseries for timely transplantation of young seedlings
- ❷ Seed trails with Desi varieties; *Pedda Chodi* and *Nall Chodi* (long duration varieties -152 days) are found to be highly responding to the practices
- ❸ Introducing cycle weeders for weeding in small plots and bullock-drawn weeding in large plots
- ❹ Introducing poly crops in Ragi: Nine farmers of Srikakulam district were encouraged to try this method of poly-cropping in an area of 10 acres. Crops like Brinjal, Tomato, Radish, Chilly, Cabbage, Ridge gourd, Cowpea, Barnyard Millet, Foxtail Millet and Sesame were promoted along with Ragi.



Gorle Chinnam Naidu, a cluster level resource person, practiced Guli method in poly-crop system; he cultivated Ragi, along with Maize, Brinjal, Bendi and Tomato. He got a total income of Rs 18600 from 30 cents of land..! Apart from it, he could store a quintal Ragi for his own consumption. Now he is encouraging others to take up this poly crop system.

Local carpenters, fabricators were trained in developing the equipment for supplying locally. Farmers from Anantapur district having good experience with bullocks stayed in tribal areas teaching them how to use bullocks for weeding. A total of 600 cycle weeders have been supplied to the farmers for inter cultivation operations.





Hiring Bullocks - A Remunerative Service Enterprise!!

Surendra, a native of Eddulavaaripalli village in Thamballapalli Mandal of Chittoor district, have a pair of bullocks and a cow. All the six members in his family take part in agricultural operations that enabled him to extend his skill of weeding with bullocks as a service to other farmers. Several farmers who practiced Guli Ragi method have taken his services. During Kharif-2019, he extended such services to about 22 acres and earned an amount of Rs.25000.

He is now so happy with this unexpected opportunity. "This additional amount of Rs 25000/- is not a small amount. It has almost covered my expenditure for farm inputs in my land. Otherwise, I had to take loan from local money lenders for that purpose, at higher interest rates. This opportunity has relieved me from such burden...", he says.

His services on the other hand, helped the farmers from move away from manual weeding, saving time, family labour and reducing overall costs on inter-cultivation.

Millets promotion through ITDAs and Comprehensive Revival of Millets (CRMP)

A total area of 6000 acres was promoted mostly on the hill-top region of the tribal landscape. 30 trained community campaigners were engaged in building awareness on millet consumption in Tribal areas through food-festivals / competitions. Campaigns and rallies were organized involving local farmers, children and members of women self help groups. Nearly 1400 families in 25 clusters were covered in these campaigns.



Enabling decentralized processing facilities



Availability of processed millets is one of the critical bottlenecks in terms of promoting consumption. A strategic action plan was prepared to address this in association with SHG women. Some modifications were made to the existing Mixies available in the market so that they can be used for processing Millets. There is a positive response for these Millet Mixies, more so from tribal women.

25 entrepreneurs were identified in 6 districts of North Coastal Region to establish decentralized millet processing units with support from CRMP program of ATMA, Agriculture Department of Andhra Pradesh.

2.4. Efforts in Upland Hilly Areas of Maharashtra under ANAVIKA

Several trainings and demonstrations were organized for the farmers and officials, including organizing an exposure visit to Odisha Millets Mission. Equipment support was extended through Custom Hiring Centres. Community managed seed systems were promoted to make available quality seed in time to the farmers. It is aimed to establish 25 such systems across the programme area by 2021. Farmers have identified 10 local varieties of Ragi through participatory varietal trials; most of them are targeted to be multiplied during Kharif 2020-21. Primary processing units were established in 5 Blocks to promote consumption of Millets, operated by local farmers groups.

Finger Millet, locally called as Nagli, is widely grown in uplands-hilly tribal areas of Maharashtra. **WASSAN** made an effort to revive and improve the productivity of Millets in this area and bring in technology to improve the value chain. Two programs were taken up in association with **Pragathi Abhiyan**, an NGO based in Nashik, in 7 blocks in 3 districts – Nashik, Plaghar and Thane and in collaboration with the Tribal Development Department.

Program Reach

3

Districts

84

Villages

1973

Total farmers

1845

Acres



Started with an objective to increase millet productivity by 25% by the end of 2 years, the program achieved it in the very first year. On an average ragi yield increased to 8.16 quintal per acre compared to 2.55 quintal per acre in the base year; a 3 fold increase! Farmers are showing interest to practice natural agronomic practices; there is significant behavioural change in production practices and consumption patterns.



Promoting Productive Usage of Water in Rainfed & Dryland Areas



WASSAN sees the purpose of ‘**water management**’ in rainfed areas as securing crops, livestock and livelihoods of many rather than provision of irrigation for few; meeting frequent moisture deficits arising out of dry spells and mitigating related climate risks. Managing water is a continuum of understanding rainfall and managing ‘Soil moisture – water bodies – groundwater’. It is intricately linked to the nature of production systems. The problem of ‘water’, groundwater especially, can not be solved without addressing the issue of equity in its distribution/ access i.e. ‘water for all’. Community level norms and governance systems are crucial. WASSAN’s initiatives on ground and in policy are built upon this understanding.

3.1. Contribution to RRA Network's recommendations for National Water Policy (NWP)

As Networking Hub of RRA-Network, WASSAN played a critical role in framing and submitting recommendations on 'water policy for rainfed areas' to the Water Working group of Committee on National Water Policy, constituted by the Ministry of Water Resources, Government of India in December, 2019, in New Delhi. The policy recommendations have evolved from a decade long work of the RRA Network across the major rainfed states of India, consultations of the working group and the deliberations in the National Convention on RRA held in 2019 involving National Rainfed Areas Authority.

3.2. Facilitating collectivization and sharing of groundwater

WASSAN focused on Participatory Ground Water Management (PGWM) related interventions, with certain principles, protocols, practices that demonstrate equitable and sustainable use of groundwater at community level. Efforts were made to build needed consensus for making public and private investments on groundwater. RRA Network, ACWADAM, Arghyam Foundation and Government of Andhra Pradesh provided necessary support in this regard.

3.2.1. Initiatives as part of RRA (Phase - 2)

Pooling of bore wells and sharing water with non- bore well farmers was promoted as part of RRA - phase 2 in 3 districts Andhra Pradesh - Kurnool, Chittoor and Ananthapuramu, supported by the Department of Agriculture. 26 NGO partners involved in this effort. 123 groups were formed comprising of 1915 farmers. The area covered under water sharing was 3912 acres. It ensures allocation of protective crop saving irrigation to all 3912 acres by pooling and establishing a network grid into which all the borewells (in each group) will pump water that is used collectively.

3.2.2. Efforts in Andhra Pradesh Drought Mitigation Project (APDMP)

Groundwater management for securing crops and livelihoods was made part of the project design of APDMP with WASSAN providing the design support. This project is implemented by Department of Agriculture with financial support from International Fund for Agricultural Development (IFAD) in five drought prone districts in the state - Ananthapuramu, Kurnool, Prakasam, YSR Kadapa and Chittoor. As Lead Technical Agency, WASSAN group supported initiation of this work with 7 facilitating agencies in 16 Mandals of 5 project districts. 17 water sharing groups were formed with 336 farmers, covering an area of 918 acres. 106 farmers who owned bore wells shared the water with other 230 rainfed farmers who do not have access to borewells.

3.2.3. Participatory Groundwater Management with BRLF Project

WASSAN anchored this activity in 4 pilot villages of Jharsiguda (Odisha) and Palamu (Jharkhand), in association with BRLF Project partners. ACWADAM provided technical support. The total area covered was 2000 Ha. Focus was on improving capacities of facilitating NGOs on groundwater management. Several training programs were organized in this regard.

3.3. Sustainable Development Plans in Watershed Projects of NABARD in Telangana

WASSAN is supporting implementation of sustainable development plans in completed and ongoing watershed projects of NABARD. These are part of Asifabad, Ashwaraopet and Bhadradi Koththagudem districts of Telangana. Farmers' Cooperatives are capacitated in improving value chain of natural resources. New water saving technologies and eco enterprises are promoted and demonstrated. Multi cropping system, natural farming methods, revival of millets are integrated into these sustainable plans. The area covered under this initiative in Asifabad is 1236 Ha; and, 2274 Ha in Aswaraopet.

WASSAN is functioning as Project Facilitating Agency of Kumrambheem Watershed project in Asifabad District. This area is predominantly inhabited by the particularly vulnerable tribal groups, the 'Kollams'. Apart from appropriate soil and water conservation activities, efforts have been put in to promote integrated farming system, pandal based vegetable cultivation etc. In the same district, WASSAN is facilitating Koutaguda Climate Proofing Project with support of NABARD. Here the focus is on for promotion of low water intensive cropping systems, encouraging water efficiency management practices, improving productivity and soil fertility. This project is having an area of 933 Ha with 433 households.

A program to develop the ROFR lands (lands secured by tribals under FRA) in Adilabad was initiated in collaboration with the District Administration and the partner NGOs in the district with WASSAN functioning as the Lead Technical Agency. 18 villages are part of this project, covering an area of 647.33 Ha. Developing farm ponds for critical irrigation is one of the activities in this program.

3.4. Assessing the impact of reviving 'Ahar Pynes'

An impact assessment of the project on revival of Ahar Pyne system in Bihar was taken up with support of Mission Sunhera Kal of ITC. This project was implemented by DHAN Foundation in four blocks covering 111 villages of Munger District. The impact assessment was taken up in 14 villages of selected blocks - Asarganj, Dharhara, H.Khargpur and Tarapur. The purpose was to quantify the results of the project at farmer level. They were analysed in terms of changes in land use, area under main crops, yields, incomes, cost of cultivation and role of water in profits at farmer level. Perceptions and practices on availability and accessing water, institutional performance in terms of participation, resolving water conflicts were also looked into.

3.5. Capacitating Small Farmers and Collectives to cope with Water Scarcity

This project is being implemented since April 2018 with support from Bread for the World (BfdW), Germany in collaboration with Water and Livelihoods Foundation. Major objective is to promote innovative water conservation measures and efficient water use practices among small farmers, to cope with water scarcity and droughts. The project works with 3,000 farming families in 16 villages, that are part of 2 districts - Yadadri Bhongir (Telangana) and Visakhapatnam (Andhra Pradesh).

Efforts to improve Soil Health and Water Productivity

- Stone bunding was done in 38 acres of land in Araku Mandal, Visakhapatnam benefiting 100 farmers. Farmers were encouraged to work in their own farms, so as to get wages and benefit with water and soil conservation works.
- Partial financial support was extended to 222 farmers to purchase and install 5850 water distribution pipes in farm lands. Out of them, 153 farmers installed the pipes and able to reduce water wastage. Technical support and guidance was given to them on installing pipe for long-lasting life & functionality.
- 25,157 tractor loads of silt removed from 20 tanks was applied in farmers' agricultural lands. While project supported silt removal from the tank bed areas, farmers themselves transported the silt to their farmlands. Apart from soil fertility, the water storage capacity of the tanks improved considerably.
- Existing farmers' cooperatives and producer organizations were motivated to act collectively towards addressing water scarcity. Capacity building and orientation meetings were organized on the need for water conservation, crop rotation, natural farming practices and maintenance of drip irrigation systems. Farmers actively participated in these activities by sharing 50% of the cost.



3.6. Providing knowledge and advocacy support to local partners in drought proofing of agriculture

WASSAN is implementing this project in Guntur, Prakasam, Nellore and YSR Kadapa districts of Andhra Pradesh in partnership with 3 NGOs; supported by ITC Limited. Developing action plans, status reports on the situation of water resources and evolving appropriate plans for regenerating rivers and harnessing water are the objectives. The total drainage length of 629 Km with a catchment area of 15,74,165 Ha will be covered. First phase of the project was initiated that focuses on scoping and preparation of plans; this will be implemented in the second phase.

Support was also extended to BAIF for developing maps and identifying recharge zones in Medak district of Telangana. It covers an area of 1357 Ha of in Konayapalli, Rangayapalli and Chetla Gouraram villages.

3.7. Constructing a New Reality: Facilitating WASH initiative with the support of HSBC

A WASH project was executed in 11 villages of Anandapuram Mandal of Vizag District in Andhra Pradesh. As a part of this initiative, required infrastructure was strengthened in rural areas for improving quality of life, in terms of providing access to drinking water, sanitation, irrigation, energy appliances etc. Several efforts were made for water conservation and improving productivity in agriculture. Access to groundwater was improved by renovating and desilting open wells. Horticulture and solar based energy efficient water distribution systems were promoted. More than 280 families benefitted with these interventions. 70 acres of additional area was brought into cultivation in Rabi season. As a part of plantation and horticulture, cashew and mango orchards were promoted in 87 acres that provided additional income to the farmers.

Local women were trained in enterprises activities like millet based bakery, making of *dhoop battis* (with flower waste) and cloth bags etc. Some local youth took up vegetable marketing in Rythu Bazars and other urban centres. Measures were taken to provide access to safe water for the people in project villages. Renovation/ construction of drinking water storage tanks, digging/ renovating bore wells, providing tap connections etc. are part of such measures. A total of 722 families benefitted with these activities.

For improving sanitation, 230 household level toilets were constructed and some dysfunctional toilets were repaired. For those families who do not have enough space for toilets at household level, a toilet block was constructed in a common land donated by local Gram Panchayat. 60 toilets were constructed in this block for 60 families. All these have bathing space, dedicated water supply, electricity connection and wastewater treatment facilities.

Energy efficient stoves were distributed to 187 families in the project villages. A school kitchen was renovated. A dining room was constructed for arranging mid-day meals for school children. Two children parks were constructed in two villages. Local Gram Panchayath donated the lands for these parks. Several government schemes were integrated into village level action plans. Training programs, meetings and exposure visits were organized to improve capacities of the local community.





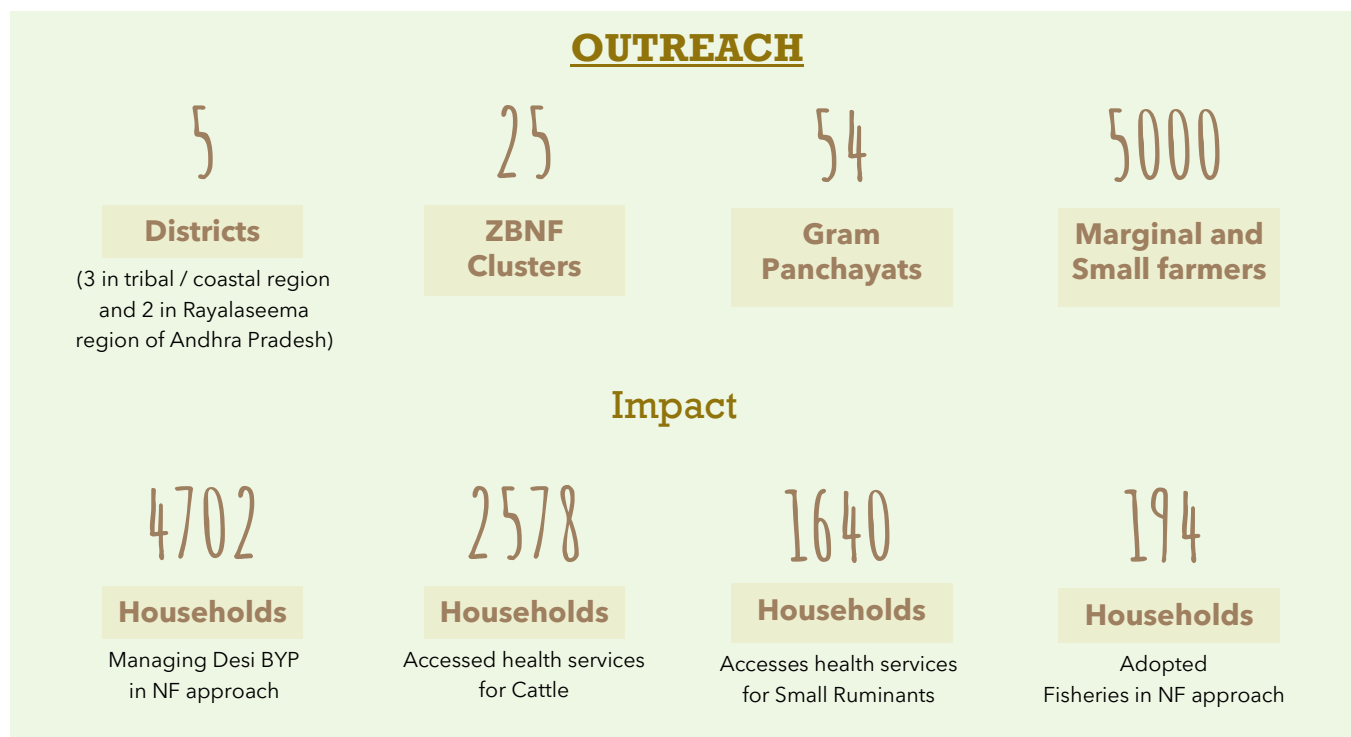
Integrating Livestock, Poultry and Fisheries into Farming



The productivity of rainfed and drylands can be improved, if the inter-connection between land, water and livestock resources is strengthened and optimally utilized. It also helps in minimizing the risk to the dependent families by providing alternate, supplemental income opportunities. Though it is common for rural farmers to maintain livestock and backyard poultry, they are not able to utilize their potential to the full extent. Lack of proper support systems, in terms of feed, health, shelter and business enterprises, etc. are critical concerns for them. If such support systems are extended, it is possible to get more complimentary benefits. WASSAN tried to evolve such support systems to strengthen natural input based integrated farming through various initiatives and programs in different states, in different agro-climatic zones. The essence of all these initiatives is to provide sustainable supplementary income to the families and enable a system wherein the waste of one natural resource is more efficiently used as input to another, within the system.

4.1. Initiatives in Zero based Natural Farming (ZBNF) clusters of RySS

As a resource organization for Rythu Sadhikaratha Samstha (RySS), which is spearheading Zero Based Natural Farming (ZBNF) methods in cluster based approach in Andhra Pradesh, WASSAN facilitated several initiatives to integrate livestock, poultry and fisheries into agriculture and establish proper support systems to improve the productivity. Farmers in these clusters were able to enhance their supplemental income in the range of 15-20%. Mortality among livestock was decreased to a significant level. In some clusters, mortality among kids reduced from 35% to 12%.



4.1.1. Promoting Desi Poultry

4704 families were engaged in Desi poultry production system, managing a total of 20000 birds; 1341 households were able to maintain a minimum 5 hens (mother birds) per household. Desi Poultry Breed Farm Model (in an area of half acre land) was propagated and standardized for ensuring supply of chicks and supplemental income, with integration of several components into the system.



4.1.2. Ensuring Health Care and Vaccination Services

Linkages were strengthened with Department of Animal Husbandry in the clusters for ensuring seasonal vaccination and improving health care services to the cattle and small ruminants. 5072 cattle (belongs to 1503 families) received HS, BQ and FMD vaccines from the department. 16159 small ruminants (belongs to 1640 households) got seasonal vaccination. Linkages were also established for making available ET and PPR vaccines.

4.1.3. Ensuring Fodder Security

652 farmers have taken up fodder crops in 869 acres of lands to ensure availability of fodder even during summer. 900 tribal households have planted nearly 5000 fodder plants (*Sesbalina grandiflora*) in their backyard to increase leafy fodder availability for 7180 goats.

Cattle Urine Collective - An Enterprising Activity Now!

Cow urine is considered as one effective input in ZBNF practices; But its availability in required quantum is an issue for farmers. They tend to ask, "...Where is the cow urine to prepare concoctions like *Jeevamrutham* / *Beejamrutham*?"... An enterprising experiment was taken up in Gurrampanuku village in Paderu Division to address that issue. 8 cowsheds were connected through a pipeline to collectivize cow urine in a tank with a capacity of 2400 liters. Farmers can collect cow urine in bottles/ cans, by operating the tap of the tank. They can also sell the surplus of the cow urine and/or make cow urine-based inputs for ZBNF. This experiment demonstrated efficient method for collection of cow urine and also the potential to take it up as a local enterprising activity....!!

Better shelter is one critical factor that helps in improving productivity and disease resistance among the livestock; in that respect, efforts were made to improvise and renovate existing cattle sheds. In north coastal area, 15 cattle sheds were renovated with concrete flooring and common urine collection chambers. In Chittoor, 32 improvised cattle sheds were constructed, under convergence with MGNREGS. 6 tribal farmers renovated their goat sheds in D.Gonduru cluster. Observing the benefits, farmers are showing keen interest to have such shelters.



4.1.4. Integration of Fisheries

194 farmers practiced fish culture in 158 acres of water spread area by following ZBNF principles. Following better management practices, productivity increased from 35 Kg per acre to 200 Kg per acre. Seeing the potential, the interest among the farmers is increased. Several people are developing fishponds in their fields to diversify their household income.



4.1.5. Promoting draught power in field operations

Using bullocks in inter-cultivation operations is a common practice in Rayalaseema region. It not only reduces costs but also helps in improving soil health and retention capacity of moisture. Over the time this practice has become invisible in tribal areas. In this context, an effort was made encourage bullocks drawn weeding system. Farmers who own a pair of bullocks were encouraged to serve others in inter-cultivation operations on cost basis. Some farmers from Rayalaseema visited tribal areas and provided training to the tribal farmers. This farmer led approach has got good response. In Chittoor district, 43 Bullock entrepreneurs provided such services for 201 days and got an income of Rs. 2,44,800/-. In tribal areas, 141 bullock farmers served fellow farmers in weeding operations.



4.2. Special Programme for Promotion of Integrated Farming in Tribal Areas (SPPIF) – Malkangiri

Malkangiri is a remote district in Odisha with large concentration of Tribal population. District remained backward in spite of having rich natural resource base. Four years work of Revitalizing Rainfed Agriculture network (2012-2016) has opened up possibilities for making a larger impact at the district level, in terms of improving productivity of the farming systems and livelihoods of farmers. For that, a comprehensive program with an integrated area approach was taken up. District Administration supported this initiative. The objective is to establish institutionalized service delivery systems through Farmer's Organizations, to build investments in infrastructure and institutional capacities, to realize the production potential in agriculture, livestock and fisheries.



The programme has a unique institutional design with Government (DAFP and ATMA), Civil Society (WASSAN, District NGOs and CBOs) and Academia (Nabakrushna Chaudhary Centre for Development Studies) as partners. It is anchored at the district level by ATMA with the support of local experienced NGOs at Cluster level. FPOs are visualized as Regional Service Centres or AnchalikSeva Kendras (ASK's). Broadly following activities were in this program during the year.

4.2.1. Building and Strengthening Institutions

Three **Anchalik Seva Kendras** were registered under the company act; these Kendras are functioning as Farmer Producer Companies. Annual membership is given to farmers to avail the services on a nominal fee basis. The extended services include- vaccination, access to equipment, value addition and market linkages etc.

4.2.2. Enhancing agricultural productivity

For improving productivity in Millets, Cereals and Pulses, line transplantation was promoted in 653 acres in 96 Villages. 150 kg of breeder seed (PRG-176 Ujala) distributed for seed production in 25 acres. 30 kg Arhar seed was given to 120 Farmers for bund transplantation. 3 quintals of Dhanchia seed distributed for cultivation of green manure and another 20Kg for seed production. Seeds of 13 local varieties were collected from different sources and distributed in three clusters for multiplication. Nearly 253 acres of area was covered under green gram, in collaboration with agriculture department.

4.2.3. Ensuring critical and protective irrigation

An extent of 256 acres in four patches was selected for facilitating protective irrigation to the crops. It belongs to 93 households of 4 villages. All the beneficiaries contributed their labour for excavation & laying of pipelines. 26 Sprinkler sets were distributed so far.

4.2.4. Supply of quality seeds and agricultural equipment

Three seed banks were promoted to ensure supply of quality local seeds to the farmers. Members of Mission Shakti (SHGs) linked with these seed banks. So far, 1238 Kg of seeds of 11 varieties distributed to 539 farmers from these banks. A few varieties of local seeds were collected for seed multiplication; an exercise is being undertaken to record their characteristics. Agricultural equipment's like sprayer, seed treatment drum, weeder, marker, groundnut decorticator, pump set etc. were made available to farmers through 18 Custom Hiring Centres. These centres could earn an income of Rs 25730/- through rental fee.

4.2.5. Promoting Vegetable cultivation and Horticulture

236 households have taken up vegetable cultivation in backyards, covering an area of 79 acres. 37 farmers took up Trellis cultivation in 26 acres. Local varieties of vegetable seeds were distributed to farmers. 11 farmers were linked for irrigation programme through OAIC, Malkangiri, covering an area of 55 Acres. 25 SHGs of Mission Shakti program were identified and facilitated to take up organic liquid manure preparation business.

4.2.6. Strengthening Livestock and Desi Poultry

With the collaboration of local veterinary department, health and vaccination services were streamlined. Trained Para-Vaccinators were made available for regular vaccination of Desi Poultry and livestock. A total of 300 night shelters were constructed for providing protection to the birds; 50 goat shelters were renovated. Regular chic supply was ensured through 6 breed farm entrepreneurs. On an average, they have earned Rs 15000-20000 through selling the birds.

4.2.7. Promoting Inland Fisheries

Inland fisheries are promoted in an effort to capitalize the seasonal and perennial water-bodies in Malkangiri district. It was taken up in the total water spread area of 310 acres. 5168 Kg of fingerlings of different varieties of fish were released in 610 ponds. An effort was also made explore the potential of desi-variety fish 'Singi' in 4 ponds, Regular trainings and hand holding support was extended to the farmers on better management practices that includes pond preparation, seed stocking, feed supplementation and growth monitoring.



Other Initiatives

- **Agro-ecology & Agro-Biodiversity Committee** was formed under the chairmanship of Collector and District magistrate, Malkangiri. Objective is to document and conserve the information related to plant and animal biodiversity; registration and promotion of indigenous plant and animal species through local community institutions; and, promotion of local suitable varieties through participatory varietal trials.
- A **Ragi Mandi** was inaugurated at Badpoda by the Honorable Minister of Agriculture Shri Arun Kumar Sahoo; a total of 11 such Mandis are promoted in collaboration with Lamp & TDCC by procuring 500 quintals of Ragi from 734 farmers.
- A **Detailed Project Report** was submitted to PD, DRDA for extension of the integrated farming approach in Swabhimana Anchal program.

4.3. Promoting Entrepreneurship in Desi Poultry Systems

Though 84% of birds in the backyards in India belong to Desi breeds, there is less attention on them. WASSAN has been working to strengthen Desi poultry production systems since 2006. Several pilots have been taken up to sustain these systems across different rainfed regions of the country. Efforts were also made to promote entrepreneurship start-ups with Desi-Poultry in different agro-ecological conditions. In some states, such initiatives were scaled up in collaboration with Department of Animal Husbandry, Tribal Welfare and Forestry.



4.3.1. Collaboration with Department of Animal Husbandry, Government of Andhra Pradesh

This was a pilot project implemented by WASSAN in association with field level NGOs, covering 13,000 tribal households in 5 tribal districts; Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari. It provided last mile service delivery to women households through trained local tribal youth. Desi Breed Farm Enterprises were promoted to ensure regular chicks supply for rearing birds in their backyards. Package of practices were standardized for the breed farms; household units integrated into diverse cropping system of the households.

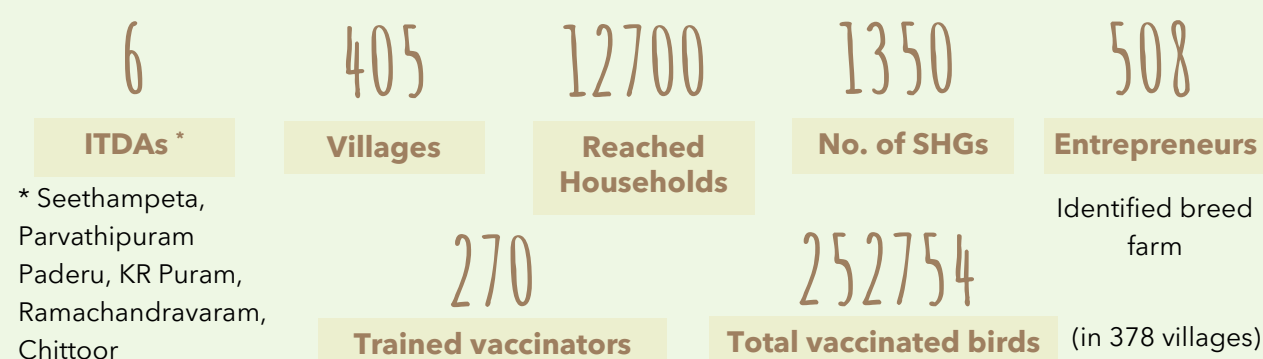
Coverage and Outreach



4.3.2. Collaboration with TRICOR and Animal Husbandry Department

The initiative taken up with Animal Husbandry Department was subsequently scaled up by the Tribal Welfare department of Andhra Pradesh; WASSAN extended technical support for this. This project had an outlay of Rs. 31.07 crores with a target of increasing household annual income of rearers to Rs 20,000; and, Rs.60000 per year for the breed farm entrepreneurs. It was ensured that for every 25 households, a breed farm entrepreneur is there to supply chicks. For each family, 25 chicks (40-45 days old) were supplied on subsidized rate initially.

Coverage and Outreach





Out of the targeted 540 Breed Farms, construction of 34 Breed Farms is completed and work is in progress for another 45 Breed Farms in Seethampeta and Paderu ITDA areas. Construction of 375 household level night shelters is also in progress in ITDA, Paderu. 270 local youth were trained in vaccination and primary health care services by the local Veterinary Doctors. They are supporting vaccination campaigns at village level and extending services on cost basis. Members in Common Interest Groups (CIGs) have collected fees for this; a Poultry Fund is formed with an amount of Rs 15.58 Lakhs collected from households. Out of this, they have used Rs 35,450 to buy medicines and paying service fee for vaccinators.

Intensive efforts were made to protect the birds from contagious diseases like Ranikhet and Fowl Pox. A total of 2.80 lakh doses of RD Lasota vaccine (received from VBRI, Samarlakota) was ministered in the program villages. All the selected 280 Breed Farm Entrepreneurs were given centralized trainings in 8 phases by ITDA, in association with Animal Husbandry Department. All the 6 Project Officers of respective ITDAs have visited Breed Farms in their respective areas and appreciated the model.

Impact

[Extension of services, vaccination, mortality, marketing and feed integration]

3,12,398	2,52,709	405	3860	12453
Birds dewormed	Birds vaccinated	Villages covered	Total Trainings	Women rearers
10442	56221	455	1056	Accessed extension services
Total birds marketed	Total birds consumed	Total value of birds	Night shelters	32%
(since inception of breed farms)	By the community	Income in Rs Lakhs	Renovated with community support	Reduction in Mortality Rate

'...Desi birds have significant cultural value. They are used in local rituals and festivals, hence highly valued locally. Locals use different varieties of Desi birds for different rituals/festivals. The price of birds spikes and fetches double during the local festival season.'

Killo Jamuna,

Tribal Farmer, Vishakhapatnam District,
Andhra Pradesh.



Koda Abbaidora, a small tribal farmer and a wage labourer in PedaKodapalli in Andhra Pradesh, could increase his agricultural income two folds, by integrating agricultural activities with breed farm enterprise. He got Rs 30000 from his regular agricultural activities and wage labour; Breed farm has provided an income of Rs 54,930/- in a year. Earlier his family used to consume eggs once or twice a week; now they are consuming their own farm eggs every day and chicken meat twice a week.



"...Earlier I never saw income from Desi birds, due to high level mortality. Predation and diseases were reasons for such mortality. In an awareness campaign, I learnt about night shelter and better management practices. With these, mortality rate among the birds was reduced drastically (from 12 to 3 birds). Number of birds in my flock increased substantially as a result of regular vaccination. With a good assured income, now could reduce my dependency on wage labour. Indeed, it's a big relief for me as I am growing old..."

-Kotam Chellayamma, Komaravaram, East Godavari District, Andhra Pradesh.



4.3.3. Promotion of BYP in Andhra Pradesh Drought Mitigation Project

This initiative is also taken by APDMP in 115 clusters in Rayalaseema and Chittoor districts.

4.3.4. Collaboration with BRLF to extend technical support to partner NGOs

WASSAN's BYP model was replicated by BRLF partners and it was extended in 3 States - Odisha, West Bengal and Jharkhand. Local NGOs and consortiums have taken forward this program in their respective areas, covering a total households of more than 5000 households. Exposure visits were organized for these partner NGOs.

40

Odisha

2850

West Bengal

1000

Jharkhand

**REPLICATION OF BYP
MODEL IN 3 STATES**

[HOUSEHOLDS]

4.3.4. Integration of BYP into Farming Systems in Malkangiri, Odisha

As part of an integrated area approach to build support systems for farming, Malkangiri district administration encouraged Desi BYP in 3 Clusters -Mathili, Somnathpur and Padmagiri. 6 Desi Breed Farms were established during the year, by supplying 300 mother stock. 300 Night shelters were constructed. Breed Farm Entrepreneurs could get a total income of Rs 92,850/- by selling 138 Hens, 80 Cocks and 24 Chicks. Still they all have significant number of birds at their disposal.

4.3.5. Collaboration with Udyogoni in Jharkhand

As part of RRA network, WASSAN provided technical support to Udyogini in Jharkhand. The initiative was promoted in 6 villages covering 210 households of 3 Blocks in 2 districts- Ranchi and Gumla. 6 Breed Farm Entrepreneurs were promoted.



4.4. Integrating Fisheries into Natural Farming in North Coastal Andhra Pradesh

The program primarily intended to make use of under-utilized water bodies in tribal areas to their full potential by promoting fish culture. Though it was intended to initiate in 5 clusters of Srikakulam district, gradually it was expanded into other scattered and intense areas of Visakhapatnam and East Godavari. Finally, a total of 112 water bodies of 67 villages in 12 clusters became part of this initiative. Local Fisheries department extended support in this process. Totally 132350 fingerlings were stocked in an extent of 127.7 acres of water spread area. Effort was also made to construct 8 fish ponds in Seethampeta Mandal in convergence with IWMP program.

Geo tagging of water bodies, developing institutional protocols through Fisheries Interest Groups (FIGs), extending knowledge transfer and enabling convergence with fisheries department are key elements of the initiative. Technical protocols for mapping, seed production, feeding etc are standardised; 156 farmers were trained in better management practices; 20 cluster level resource persons are now available for extending support in scaling up the program.



Three Custom Hiring Centres (CHCs) were established to provide equipment support to the farmers on a nominal fee. *Drag Net, Cast Net, Plankton Net, Hapa Net, Weigh Machine, Scale, PH Testing Kit* etc. were made available through these CHCs. A lot of communication material like posters, manuals, fish cards was developed for orientation and monitoring purposes.

Promoting Fingerlings Enterprises

Completely depending on the line department for fingerlings often delayed the stocking, beyond the optimal stocking season. Sourcing them from private nurseries was found to be logistically cumbersome and expensive. To address these twin issues, an initiative was taken to promote 7 local entrepreneurs to take up fingerling supply enterprises. 3 such entrepreneurs in Sreekakulam district supplied 99000 fingerlings and 7650 yearlings; they could cater to 16 ponds in 10 villages. One fingerling entrepreneur in Vishakhapatnam district supplied 3800 fingerlings. A fish feed enterprise was promoted in Veeragattam village in Srikakulam district.

A technical assessment of some harvested water bodies was undertaken during Jan- March 2020; it showed that fish productivity and survival rate varied from 40% to 70% in seasonal water bodies. This activity has benefitted 519 households in total. Apart from supplementary income, it also contributed to improve the nutritional intake among the families. Earlier, on an average a family used to take 14.5 kg fish per annum, now it is increased to 29 kg.

Earnings of Rs 17000 in 6 months!

B. Sambaiah, a farmer of S.Gopalapuram village of Veeragattam cluster in Srikakulam district owns a fish pond. Its effective water spread area is 70 cents. Water remains in it only for 6 months. He released 2000 fingerlings on 3rd September 2019; followed suggested package of practices. After 6 months, he went for staggered harvest and got 283 kg of fish. First catch was 195 kg and second one was 88 kg. He sold 243 kg fish at the rate of Rs 100 per kg and earned Rs 24,300/- income. The rest of the harvest was used for sharing and self-consumption.



Deducting his total investment for inputs (Rs 6450/-), finally he had a profit of Rs 17,850/- in just 6 months..!!

Efforts for scaling up...

An effort is going on to form FPO/Cooperative as formal institution to steer the activities in a large scale in these tribal areas. A proposal for scaling up the initiative was made to Rythu Sadhikaratha Samithi (RySS), in convergence with fisheries department. Another proposal has been submitted to TRICOR to extend this program in tribal areas in an intensive way. The idea is to bring 2200 acres of water bodies into fish production in 5 ITDAs of North Coastal Region. Effort is also being put in to develop more nursery ponds by promoting entrepreneurs, to ensure timely supply of seedlings. Efforts are intensified to build confidence among the FIGs and transform them into an FPO/Cooperative kind of institution.



Strengthening Diversity: Protecting Local Seeds and Breeds



Different types of local seeds and livestock breeds strengthen farming systems and livelihoods, particularly in the complex and diverse context of rainfed areas. They are invaluable to small farming systems. With completely skewed and misguided policies, many of the finest local breeds of livestock and local seeds are in the brink of extinction. In this context, conservation and sustainable use of genetic resources of cattle and seeds has become more critical for rainfed regions, particularly in terms of their social, economic and cultural benefits. With this realization, WASSAN has undertaken needed initiatives to recognise and protect indigenous cattle breeds and local seeds.

5.1. Conservation of Local Germplasms: Registration of Poda Thurpu cattle, as 1st Cattle Breed of Telangana

This initiative was taken in collaboration with Telangana State Biodiversity Board and Department of Animal Husbandry, Telangana. Poda Thurpu cattle is famous for its excellent draught power and capacity to work in agricultural fields, both in wet and dry conditions. There is huge demand among the farmers of Nagarkurnool / Mahabubnagar and also other parts of Telangana.

The initiative focussed on characterization and registration of these cattle as a distinct native breed of Telangana. It all started in 2018 with identification and recording the details of 11036 cattle from 27 villages in Nagarkurnool district. Sanjeevani, a partner NGO based at Bhuj-Kutch, Gujarat and a local NGO, CONARE supported this process. Subsequently, an association was formed with cattle breeders, named as 'Amrabad Poda Lakshmi Govu Sangham'.

Poda Thurpu - First Registered Cattle Breed from Telangana

Efforts for Breed registration process continued during the year. Based on the application submitted to ICAR - National Bureau of Animal Genetic Resources, Karnal, Poda Thurpu cattle were recognized and registered as an unique indigenous cattle breed by ICAR-NBAGR in February 2020 (**INDIA_CATTLE_3600_PODATHURPU_03044**). Poda Thurpu became 1st cattle breed from Telangana state and 44th cattle breed of the country.



A research article by WASSAN on **Characterization of Poda Thurpu Cattle Breed** was conferred with Prof. K.N. Sharma Memorial Award, 2019, at the XVII Annual Convention of SOCDAB and National Symposium on Enhancement of Farmer Incomes through Management of Animal Genetic Resources, 10 - 11, February 2020, Madhya Pradesh.

5.2. Identification and Characterization of *Vandhera* and *Nallamala-Pasa*; two undefined Indigenous Cattle Populations of Telangana and Andhra Pradesh

The initiative was taken up as part of AnGR Network project of ICAR-NBAGR, initiated during 2017-18; Around 101 breeders of *Nallamala-Pasa* were identified from 34 villages Kurnool in Andhra Pradesh; 118 breeders of *Vandhera* cattle were identified from 32 villages of 4 districts in Telangana. Data pertaining to the socio-economic status of the breeders, their management systems, biometric and physical traits of 700 *Nallamala-Pasa* cattle and 700 *Vandhara* cattle population has been recorded for the purpose of characterization, adopting the format prescribed by the ICAR-NBAGR.

Focus during the year was on mobilizing breeders and forming associations. Intense meeting at village and district level have resulted into formation of 'Nallamala-Pasa Govu Sangham' in February 2020. Registration of the *Vandhera* cattle breeders association is in progress.

Breed descriptor of *Nallamala-Pasa* cattle had been prepared; draft monograph was communicated to the NBAGR in July 2019. A vaccination camp was organized in June, 2019 in Kurnool where 1012 cattle was provided vaccination. Efforts were also put in to address the fodder security issue. For bringing awareness on rights of local agro-pastoral communities over the commons and forest rights, a consultation meeting was organized on 6th May 2019. Representatives Amrabad Poda Thoorupu Breeders Association shared their experiences.

Presently the focus is on for developing appropriate strategies for conservation of these indigenous cattle breeds; increasing efficiency and utilization of draft power through investment in technology; increasing the income of cattle breeders through establishment of market facilities; improving the animal healthcare system and access to veterinary services; recognition of the customary grazing rights of the pastoralists to ensure access to pasture lands.



The experiences and learnings were documented and published as research articles and reports; a research article on characterization of the *Nallamala-Pasa* cattle population had been submitted to the Journal of Domestic Livestock Biodiversity, NBAGR for review. Two more research articles* were also submitted for different journals for review. WASSAN published a report titled **"An Overview of Mobile Pastoralism of Andhra Pradesh and Telangana states of the Deccan Plateau Region of India"**.

* Siripurapu, K.K., S. Das, R.K. Pundir, M.S. Tania, Akinapalli, V.R., and M. Reddy, 2019. An Agro-pastoral Indigenous Draught Cattle Population of Andhra Pradesh - *Nallamala/Kamma* Cattle. Under review with the Journal of Livestock Biodiversity, SOCDAB, NBAGR, Karnal.

Siripurapu, KK, S. Sharma, A. Sainger, S. Das, and K. Kotamraju, 2019. Validation of the Indigenous Technical Knowledge of Indigenous Livestock Breeding and Management. Under review with the Indian Journal of Traditional Knowledge. (Article Id: IJTK-1123).

5.3. Registration of Local Goat Breed in Malkangiri, Odisha

This is another effort to conserve and protect the local goat breed of Malkangiri. The details of 1419 goats were taken from 220 households for this purpose. Registration process is being undertaken in collaboration with SAHJEEVAN, Gujarat. Report has been submitted to local livestock department for verification and further process.



5.4. Promotion of Seed Diversity Blocks

For reviving local seed systems and increase the local resilience to climate change, WASSAN facilitated community-based seed systems under Zero Budget Natural Farming (ZBNF) programme of Government of Andhra Pradesh. Promotion of seed diversity blocks is a critical component of these efforts. The purpose is to conserve and maintain seeds of diverse crops / varieties, purify and produce quality seeds, encourage the exchange of seeds within the group of clusters, facilitate multiplication and supply of quality seeds through Mana Vittana Kendras (MVKs), safeguard indigenous plant genetic resources and establishment of digital open seed repository in the public domain to streamline the information and exchange of seeds.

Such diversity blocks were promoted in 3 different agro climatic regions, consisting of tribal, drylands and north coastal plains of Andhra Pradesh. Initially it started with 6 diversity blocks consisting of 12 Mana Vittana Kendras; subsequently expanded to entire area under ZBNF program. Varietal selection is going on in farmer's fields at 6 sites, with 538 accessions of 47 crops. The highest number of accessions belongs to Paddy, followed by Millets, Pulses, and Vegetables. Among these 538 accessions, 476 have been germinated. Plant characterization was completed for 341 accessions. Farmers are demanding the seeds of 70 accessions based on-site verification. An open digital platform software has been developed to upload the data for further scientific analysis.



5.5. Participatory Varietal Trials and Conservation of Millets Germplasms in Odisha

The objective of this initiative is to explore millets germplasm with passport data from primary conserver and help them to register the variety as farmers 'variety. In-situ on-farm conservation and characterization of germplasms is being done as part of this process. The focus is also on safeguarding intellectual property rights of local farmers. It is being facilitated as part of the efforts under Odisha Millet Mission. Trainings and exposure visits were organized on varietal trials and quality seed production.

The best varieties selected in 2018-19 were taken up for quality seed production in an area of 25 acres. 16 varieties identified through participatory varietal trials in 14 blocks of 5 districts were selected for this purpose. So far, 800kg quality seeds from mother panicles and 980kg from primary panicles were harvested. Purification of selected varieties was taken up under the supervision of Agriculture scientists from OUAT. The selected plants are now in harvesting stage; data collection is going on.

During the year, inter-cropping was promoted in all 14 districts in an area of 600ha; Efforts were put in to create awareness on millet diversity through exhibitions, food-melas and festivals; Seeds and plants of different millets were exhibited on these occasions.

5.6. Promotion of Navadhanya Cropping System in Andhra Pradesh

This was an effort to shift the rainfed farmers towards the traditional poly-cropping system that had been prevalent across the sub-continent in general; Ananthapur and Chittoor districts of Andhra Pradesh (AP) in particular. The traditional poly-cropping systems are known locally as Akkidipantalu in Ananthapur and Sala Ginjalulu and KaayaDhanyam in Chittoor district. These cropping systems used to be predominantly food grain based until 1970s, but trend changed since late 1980s; by the year 2006, over 75 percent of the total cultivation area in Ananthapur district came under a cultivation of a single crop i.e. Groundnut. The shift from poly-crop system to mono-crop system had serious implications for sustainability and poses very high risk to farmers, especially the small-marginal farmers. Navdhanya program was taken up basically to arrest that trend and re-build the confidence among the farmers on the traditional poly-cropping systems.

The critical interventions of this initiative include; Identifying locally adapted systems from the traditional or available source of knowledge; getting them documented in detail in consultation with resource farmers; and, trying these systems in partnership with farmers, assessing potential and deriving scaling up strategies.

During the year, the target was to encourage 1250 farmers to take up Navadhanya system, each in an acre of land. It was intended to mobilize 500 farmers (covering 500 acres) in Ananthapur district and 750 farmers (covering 750 acres) in Chittoor district. However, the response was more than expected as 1650 farmers (1200 in Ananthapur and 450 in Chittoor) have adopted this initiative in 1926 acres of land. Seed kits were provided to these farmers. The achievement in terms of number of farmers and acreage was more than double to the target at Ananthapur (1200 farmers in 1200 acres of area). But number of farmers was less than the target in Chittoor, though the extent of area is almost equal to the target (450 farmers with 726 acres of area).



Building and Strengthening Community Level Institutions and Enterprises



Community institutions are central to strengthen local circular economies.

Rainfed production systems are diverse and require diverse range of services for production in agriculture, livestock, fisheries etc., for value addition and marketing. Community institutions are at also central to program implementation in all WASSAN's initiatives. Over the years, WASSAN nurtured and facilitated several types of community based institutions, basing upon the specific agenda related to conservation, development and sustainability of natural resources and livelihood improvement.

6.1. Building and Strengthening FPOs in Andhra Pradesh and Telangana

WASSAN worked with Farmer Producer organizations and other CBOs in AP and Telangana in different capacities during last year. The nature of association ranged from providing technical support, capacity building, handholding in program implementation, liaising and facilitating credit and market linkages.

- 1 As the **Lead Technical Agency for the AP Drought Mitigation Project (APDMP)**, WASSAN group played a pivotal role in registering and grounding 105 FPOs in 5 districts of Andhra Pradesh. The focus moved to strengthening the business processes at FPOs. 3 workshops were organized- one each on market linkages, credit linkages and procurement cum post-harvest management for millets and groundnut. Members and staff of FPOs, promoting agencies, representatives of buyer and credit agencies like processors, e-commerce companies, retail brands, trading companies, exporters, NBFCs, farm machinery fabricators etc. participated in these workshops.
- 2 As the **Lead Technical agency for the Community Managed Seed Systems (CMSS)** programme, WASSAN worked with 62 FPOs operating as Manna Vittana Kendras, in Ananthapur and Chittoor districts of Andhra Pradesh. During the year, these FPOs distributed 237 tons of foundation and certified seeds to 1259 farmers, worth of Rs. 1.72 crores. Direct seed purchase from farmers was initiated in March and it was supplied to Andhra Pradesh State Seed Development Corporation, resulting into internalizing the entire seed economy. The initiative was successfully grounded, operations lasted till May and proved to be a huge success. WASSAN supported these FPOs in technical support in seed production and certification, raising credit, addressing bottlenecks, engagement with Government agencies, following up for release of advances and subsidies, capacity building, hand holding on operational guidelines, overall project MIS and documentation.
- 3 In **North Coastal Andhra Pradesh**, WASSAN started working with 4 FPOs promoted by local organizations to fetch better prices for the tamarind produce in ITDA Paderu region, prices for which had plummeted very low owing to the COVID movement restrictions. WASSAN team reached out to Rang De, a socially committed peer to peer lending agency to raise zero interest loans for farmers' groups and coordinated with the ITDA, NGOs and FPOs to facilitate aggregation, cleaning, grading, safe storage and marketing of the tamarind produce.
- 4 **Manyam Grains Private Limited**, a company promoted by WASSAN Foundation and partner NGOs procured more than 40% of its annual requirement of millets from FPOs situated in Paderu (Visakhapatnam), Veeragattam (Srikakulam), Layasa (East Godavari), Markapuram (Prakasham), Mantralayam (Kurnool) and Surjapur district in Chhattisgarh. The farmers in these FPOs were assured a pre-fixed mutually agreed price or prevailing market rate, whichever was higher. Manyam conducted training for FPOs in Odisha as part of the OMM programme and hosted exposure visit to its factory. As part of ongoing programmes, WASSAN facilitated village level SHG meetings for spreading information on suitable package of practices on millet cultivation.

- 5 **Janjeevana MACS Ltd.**, situated in Kadiri, Anantapur District in Andhra Pradesh ventured into groundnut processing and value addition during the year. They marketed groundnut and oil worth of Rs 65 lakhs. Its total turnover for the year was a little over Rs 1.10 cr., benefiting more than 200 farmer families. It could sell cold-pressed groundnut oil worth Rs. 30 lacs in less than one year!
- 2 In **Vikarabad, Telangana**, the FPOs promoted by WASSAN have been engaged in different business activities such as sale of farm inputs, commodity trading and livelihood credit. The combined turnover from these activities was 1.2 Crores for the entire year, primarily working on pignon pea. These cooperatives were linked to NABKISAN for credit.

6.2. Promoting Enterprises as part of Odisha Millets Mission (OMM)

WASSAN contributed in developing a state policy for promotion of FPOs within the reach of Odisha Millet Mission. This policy contemplates to have presence of FPOs in all the 76 blocks in 14 districts of the state, either with partnering to an existing FPO or register a new FPO. WASSAN's role is to conceptualize and design various enterprises, facilitate registration, building capacities of partner NGOs and community leaders and providing business development support.



During the year, 40 FPOs were registered in as many blocks, taking the total number of registered FPOs under OMM from 11 to 51. A workshop was conducted to prepare strategies on promotion of various enterprises around millets in February 2020. A decision was taken to pilot various enterprises in 5 blocks. These include: millet processing units, bio-input enterprises, custom hiring centres, indigenous seed enterprises, Kiosks, mobile sales outlets etc. It is also decided to promote FPOs as procurement agencies and aggregators of millets other than Ragi. As such, Bio-input enterprises were initiated with FPOs in 3 blocks. Support extended to SHGs to operate 72 community managed seed centres and 72 custom hiring centres.

One of the significant initiatives was to introduce Ragi based snacks into the ICDS program in Keonjhar District. Ragi Laddus were given to pre-school children as a morning snack (2 per week). Radhakrishna SHG based in Gumura village in Sadar block is central to this initiative. WASSAN provided training to the members of SHG for processing and preparation of the Laddu Mix. Subsequently this initiative was replicated across 14 blocks of the district; later a similar programme was initiated in Sundargarh district of the state. These efforts got much appreciation from various quarters, including Niti Aayog, the highest planning body of the country. It paved the way for integrating this into ICDS across the state.





Making Farm Work Easy: Innovations in Farm Equipment and Mechanisation



Mechanisation quite often displaces women and wage workers; erosion of wage employment threatens rainfed farming. Poor labour productivity increases management burden and profitability of farmers. Supported by Sustain+ program, WASSAN initiated work on developing equipment that makes farm work easy and increase labour productivity.

‘Farm Easy’ was promoted this year as a sub-unit of WASSAN Foundation, part of WASSAN Group of Institutions. Focus is mainly on easing out the manual workload on farm labourers especially women workers and increase the accessibility and availability of innovative implements, at a reasonable price.

7.1. Sustain+: Innovating Prototypes of different Farm Equipment

Few of the farm implements whose prototypes have been completed are going through testing phase and some of them are being re-worked upon the feedback and suggestions received from field testing. As of now Cycle Weeders and Wooden Danthis- for bullock drawn weeding have completed the entire process of testing & quality check; local artisans are being trained.

So far, 302 Cycle Weeders were delivered out of a total order of 400; remaining 98 are being manufactured. 25 Wooden Danthis have also been supplied. Organizations like Sanjeevini, Jattu Trust, Kovel Foundation and Department of Agriculture, Srikakulam have purchased these equipment, worth of Rs. 750,000/-

Sustain+ program of CInI and anchored by Selco Foundation supported initiatives to develop solar powered equipment for wider local use in agriculture production and processing.

Details of the Farm Implements planned and in development stage



Prototype	Energy Cart
Application	2K Watt Solar power can be used to power Pumps (used for irrigation), other farm equipment on field (Sprayers, Groundnut pod stripper etc.); charge batteries, where power is
Status	Under development



Prototype	Millet Mixies
Application	Used for De-hulling (removing husk) millets,
Status	In-house testing of prototypes is done and sent



Prototype	Multi-Row Sprayer (Bike-hitched)
Application	Used for spraying Jeevamrutam, etc.; battery or solar operated
Status	Preliminary field testing is done, few areas of



Prototype	Multi-Row Sprayer (Bike-hitched)
Application	Used for spraying Jeevamrutam, etc.; battery or solar operated
Status	Preliminary field testing is done, few areas of



Prototype	Electric Brush Cutter
Application	Helps in cutting Paddy; and Grass; use a battery
Status	Prototype is under preliminary field-testing, few areas of improvement identified; work is in progress



Prototype	Pod Separator for Groundnut
Application	Separates pods from Groundnut plants using battery / solar / grid power; eliminates drudgery in manual work
Status	Prototype is under preliminary field-testing, few areas of improvement identified; work is in progress



Prototype	Wild Pig Horn
Application	Useful for scaring wild pigs in the field, works
Status	Prototype is under preliminary field-testing



Prototype	Ghana Jeevamrutham applicator
Application	Used to put ghana Jeevamrutham for roots of the plants without bending their body, easy to
Status	Prototype is under preliminary field-testing

The plan ahead is to complete the testing process of the implements very soon and simultaneously identify and train FarmEasy Entrepreneurs. Plans are afoot to host a webpage of FarmEasy, with the complete details of the developed products and contact details to receive orders online; the idea is to reach out to all of our partner organizations, government departments, FPOs and CBOs. The program is supported by Sustain+ initiative of CInI and Selco Foundation.

7.2. Standardizing and Commercializing Mobile Energy for Small Scale / Drought prone Farmers

Sustain Plus program supported this initiative. The purpose is to make mobile energy carts using solar power, that can be used for providing protective irrigation, operating local processing units of diversified crops and aiding in various agronomic and post-harvest operations in rainfed areas; particularly for small holders. WASSAN partnered with Millets Machines and Tools, LLP, in fabricating these equipment. The details of the products that are being developed are as below;

Energy Cart and Small Farm Equipment (for small farmers)



Energy Cart: its fabrication is in progress at MMT, Kadiri under technical supervision of Peter Banos. The technical design had been modified for 2 KVA power according to the local requirements. This can be used to power mobile pumps for irrigation and other farm equipment like sprayers, etc.



Multi-row Cart Sprayer (Bike-Hitched): Prototype for organic growth promoters/ pesticides (Jeevamrutam) is ready; it can be operated both with battery / solar power. It is now under field testing.

Groundnut Pod Stripper
This is intended to be used for stripping pods from groundnut vines; uses battery/ solar power; eliminate the drudgery of hand stripping. It is under field testing.

Processing Equipment (for domestic and small entrepreneurs)



Prototype for organic growth promoters / Processing Equipment (for domestic and small entrepreneurs)

Desktop Millet De-huller (Mixie): it is a prototype used for de-hulling/processing Foxtail & Little Millets. In-house testing to optimize the key parameters like rpm & duration were done; prototypes are in field testing stage. A demo on Millet Dehuller presented to the participants in a national level training program, 'Millets to Millions - Building Capacities, held at Manyam Grains, Anapapalle.



Annual Financial Statement

MAHESH, VIRENDER & SRIRAM

Chartered Accountants

6-3-788/36&37A, Ameerpet, Hyderabad - 500 016.

Tel: 040 - 23401738, 23401739 Email :mvshyd@yahoo.com

AUDITORS REPORT

We have audited the accounts of **WATERSHED SUPPORT SERVICES AND ACTIVITIES NETWORK**, a registered Trust having its office at **Plot No.685 & 686, Road No.12, Narasimha Swamy Colony, Nagole, Hyderabad - 500 068** for year ended 31.03.2020. These financial statements are the responsibility of the Management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our Audit provides a reasonable basis for our opinion.

- a. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of audit.
- b. The Balance Sheet and Income and Expenditure Account dealt with by the report are in agreement with the Books of account.
- c. In our opinion and to the best of our information and according to the explanations given to us, the statements together with the schedules attached thereto and read with the Accounting Policies and Notes thereon give:
 - i. In case of the Balance Sheet of the State of affairs of the Trust as at 31st March, 2020.
 - and
 - ii. In case of the Income and Expenditure Account the Excess of Income over Expenditure for the year ended on that date.

for Mahesh, Virender & Sriram
Chartered Accountants
Firm Reg. No.001939S

(B.R.Mahesh)
Partner
M.No.18628



Place : Hyderabad
Date : 13.10.2020.

Watershed Support Services And Activities Network (WASSAN) Plot No. 685 & 686, Road.no.12 Narasimha Swamy Colony Nagole Hyderabad 500 068 - Telangana CONSOLIDATED BALANCE SHEET AS ON 31-03-2020			
PARTICULARS	Annex	2019-2020	2018-2019
CORPUS FUND	1	5,008	5,008
GENERAL RESERVE	2	93,72,325	2,10,79,685
ENDOWMENT FUND	3	2,38,98,305	1,92,04,930
BUILDING FUND	4	1,56,00,000	60,00,000
RESTRICTED FUND	5	8,03,16,725	5,58,86,887
SOURCES OF FUNDS		12,91,92,363	10,21,76,510
FIXED ASSETS	6	2,28,17,170	99,81,983
CURRENT ASSETS	7	10,63,75,193	9,21,94,527
APPLICATION OF FUNDS		12,91,92,363	10,21,76,510

Vide our report of even date
for Mahesh Virender & Sriram
Chartered Accountants(Reg.No 001939S)

(B.R.Mahesh)
Partner
(M. No. 18628)
Place: Hyderabad
Date: 13.10.2020



for Watershed Support Services and Activities Network(WASSAN)


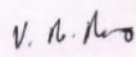


(A.Ravindra Babu)
Executive Secretary

(Dr.V. RukminiRao)
Chairperson



Watershed Support Services And Activities Network (WASSAN) Plot No. 685 & 686, Road.no.12 Narasimha Swamy Colony Nagole Hyderabad 500 068 - Telangana Consolidated Depreciation statement for the year ending 31.03.2020									
		Annex -6							
SI No	Name of the Asset	Rate	W D V as on 01.04.2019	Additions Before sep/aftersep	Deletion	Total	Depreciation	W D V as on 31.03.2020	
Foreign Contribution									
1	Furniture	10%	1,55,940		-	1,55,940	15,594	1,40,346	
2	Office Equipment	10%	1,14,392		-	1,14,392	11,439	1,02,953	
3	Land at Hyd		13,97,500			13,97,500	-	13,97,500	
4	Work In Progress (WIP) Nagole Office Building			9,25,001		9,25,001	-	9,25,001	
	Total		16,67,832	9,25,001	-	25,92,833	27,033	25,65,800	
LOCAL Contribution									
1	Furniture & Fixtures	10%	1,46,360			1,46,360	14,636	1,31,724	
2	Office Equipment	10%	72,824			72,824	7,282	65,541	
3	Land at Parigi		14,29,241			14,29,241	-	14,29,241	
4	Land at Hyd		14,87,252			14,87,252	-	14,87,252	
5	Building - Parigi	5%	15,61,199			15,61,199	78,060	14,83,139	
6	UPS	10%	1,07,386			1,07,386	10,739	96,647	
7	Work In Progress (WIP) Nagole Office Building		72,64,619	82,93,207		1,55,57,826	-	1,55,57,826	
	Total LC		1,20,68,880	82,93,207	-	2,03,62,088	1,10,717	2,02,51,371	
	Grand Total		1,37,36,713	92,18,208	-	2,29,54,921	1,37,750	2,28,17,170	



Watershed Support Services And Activities Network (WASSAN) Plot No. 685 & 686, Road.no.12 Narasimha Swamy Colony Nagole Hyderabad 500 068 - Telangana CONSOLIDATED INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31.03.2020			
PARTICULARS	Annex	2019-20	2018-2019
		Amount Rs	Amount Rs
INCOME:			
Grant Income during the year		31,55,057	8,93,476
Other Income:			
Bank Interest - FC		3,34,100	4,17,171
Bank Interest - NFC		23,46,186	24,95,608
		58,35,343	38,06,255
EXPENDITURE:			
General and Admin exp - FC	36	11,45,205	6,36,609
General and Admin exp - NFC	35	16,84,184	21,84,664
General Programme Exp - NFC		24,69,014	6,15,111
General Programme Exp - FC		5,527	-
Income Tax (TDS written off)		2,36,254	-
Assets written off		-	20,040
Depreciation		1,37,750	1,48,491
		56,77,934	36,04,915
Excess of Income over Expenses c/f to Balance Sheet		1,57,409	2,01,340
Vide our report of even date for Mahesh Virender & Sriram Chartered Accountants(Reg.No 001939 S)			
(B.R.Mahesh) Partner (M. No. 18628) Place: Hyderabad Date: 13.10.2020	 (A.Ravindra Babu) Executive Secretary	 (Dr.V. Rukmini Rao) Chairperson	
			

Partners and Collaborators

Advance Centre for Water Resources Development and Management (ACWADAM), Maharashtra
 Assistant Director of Agriculture, Soil Conservation, Kadiri, Andhra Pradesh
 ATMA - Project Director, Karimnagar, Telangana
 Azim Premji Philanthropic Initiatives Pvt. Ltd, Bangalore, Karnataka
 Bharath Rural Livelihoods Foundation (BRLF), New Delhi
 Brot fur die Welt-Germany (Bfdw) - CDM - West Germany
 Collectives for Integrated Livelihood Initiatives (CInI), Maharashtra
 Department of Animal Husbandry - APSTCFCL (TRICOR) - Government of Andhra Pradesh
 DFO, Surjaur, Chattisgarh
 Dr. Reddy's Foundation, Hyderabad, Telangana
 DRDO - (ROFR) - Adilabad, Telangana
 Ernst & Young Foundation, New Delhi
 Food and Agricultural Organization (FAO - United Nations) - New Delhi
 Friends of Women's World Banking (FWWB) (RRA-NH) - II, Ahmedabad, Gujarat
 Government of Andhra Pradesh, Amaravathi
 Integrated Tribal Development Agency (ITDA) - Paderu, Andhra Pradesh
 Integrated Tribal Development Agency (ITDA) - Utnoor - Adilabad - Telangana
 ITC Limited, Hyderabad, Telangana
 MANAGE, Hyderabad, Telangana
 MVKs (part of CMSS / Navdhanya Project)
 Odisha Millets Mission- Government of Odisha
 NABARD (Araka Farmer Producer Company), Hyderabad, Telangana
 National Bureau of Animal Genetic Resources (ICAR), Hyderabad
 NCDS and Directorate of Agriculture and Food Production, Odisha
 NCDS and District Mineral Foundation, Keonjhar, Odisha
 Pragathi Abhiyan (Adivasi Vikas Karyakram) - Maharashtra
 Project Director, ATMA, Keonjhar, Odisha
 Rythu Saadhikaarathaa Samstha - Government of Andhra Pradesh
 Sahajeevan Trust, Kachchh, Gujarat
 SBM - Anandapuram, Vishakhapatnam, Andhra Pradesh
 Xavier School of Rural Management, Bhubaneswar, Odisha





REVITALIZING RESOURCES & COMMUNITIES

ANNUAL REPORT

2019 2020

“

...While the larger institutional mandate of WASSAN is to engage with mainstream programs and build capacities for larger impact, our learning and inspiration comes from our direct engagement with the communities in fragile ecosystems – the rainfed dry lands and the tribal areas...

”

“

The core mandate of WASSAN is to provide an interface between the civil society and government for improving mainstream government programs and attract investments in their design and implementation to make them more effective and inclusive of the poor and marginalised communities ...

”

“

....It is a more fulfilling year for WASSAN in reaching out to the communities on the margin – the Tribal communities, the drought prone distressed farmers in the dry lands. WASSAN could bring in some cheer and happiness to such marginalised communities in geographies that have abundance of natural resources. Much greater civic engagement and outreach is achieved through networking across 10 states across the country, involving several CSOs and Research Institutes on addressing issues of highly vulnerable rainfed agriculture. WASSAN played a key role in bringing much needed public investments to the deprived communities and rainfed geographies through several mainstream programs....

”



Watershed Support Services and Activities Network

Plot Nos. 685 & 686, Lakshmi Narasimha Swamy Colony

Nagole, Hyderabad —500 068 Telangana, India

+91 (040) 29555295 / 96 : mail@wassan.org : www.wassan.org

<https://www.facebook.com/WASSANIndia>

<https://twitter.com/wassanindia>

