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initiative - India

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Sustainable Spices Initiative – India (SSI-I)

Program Impact Assessment

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Report Prepared by

ecociate

INDEX

1. Introduction and Objectives	6
2. Key Outcomes and Observations from select SSI-I initiatives and Projects	10
3. Recommendations & suggestions on sustaining the efforts for SSI-India	18
4. Perspectives and way forward: IDH and industry stakeholders view	26
5. Annexure/s: Study Methodology, Limitations of the research and SAP Guidelines	30

This report is an abridged version of the detailed report that was completed by Ecociate as a part of the assignment.

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Expovan | Griffith Laboratories | ITC | Jayanti | Kancor Ingredients | Nani Agrofoods
Nedspice | Nestle | Olam Agro | Synthite | World Spice Organization

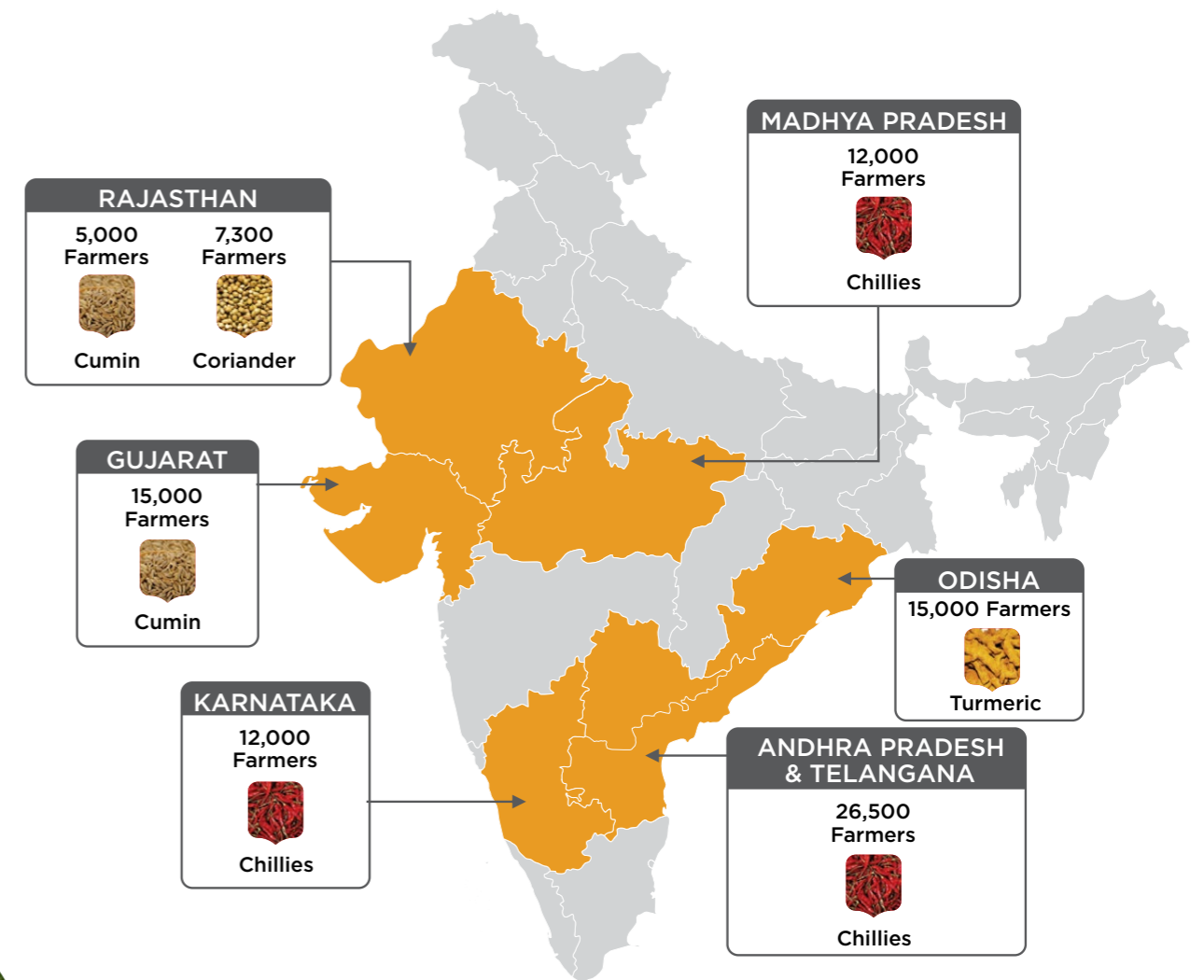




Introduction and Objectives



Figure 1: Coverage of SSI-I Projects in India for the period of 2016-2020



IDH - the Sustainable Trade Initiative has initiated Sustainable Spices Initiative-India (SSI-I) under its Global Sustainable Spice Initiative Program. Under the SSI-I initiative, a multi stakeholder platform was established to drive sustainable and responsible sourcing in the Indian spices industry along with improving livelihoods of small and marginal farmers. SSI-I aims to bring together leading national and international processors, blenders, food industry/brands, retailers and NGOs to transform the sector sustainably. Since its inception in 2016, SSI-I initiatives have covered more than 80,000 farmers (on a cumulative basis from 2016 to 2020) in India, and approximately 100,000 Ha across seven major spices-growing states of India .

SSI-I has been working with leading not-for-profits organizations and social enterprises to build capacity at the farm-level at scale to help farmers adopt sustainable agricultural practices. Under this approach different engagement models were piloted to identify a best suited model that is most effective and scalable in developing sustainable spice production and sourcing systems. The lessons from these pilots would

contribute to more cost-efficient programs and allow SSI-I members to further scale their programs with farmers.

While the SSI-I program worked with 8 implementing agencies for different spices, the scope of this study was limited to only 3 Implementing partners (IPs) predominantly working across three spices value chains. A summary of these IPs is as follows:

Name of Organization	Type of organization	State	District	Spice Crop
Participatory Rural Development Initiatives Society (PRDIS)	Not-For-Profit	Telangana	Khammam	Chilli
STAC Enterprise Pvt. Ltd.	Social Enterprise	Odisha	Kandhamal	Turmeric
Azad Agro	For Profit Social Enterprise	Rajasthan	Kota	Coriander

Note: The state, district and the crop type correspond to the SSI-I related work areas only and the organizations may have operations spread across India

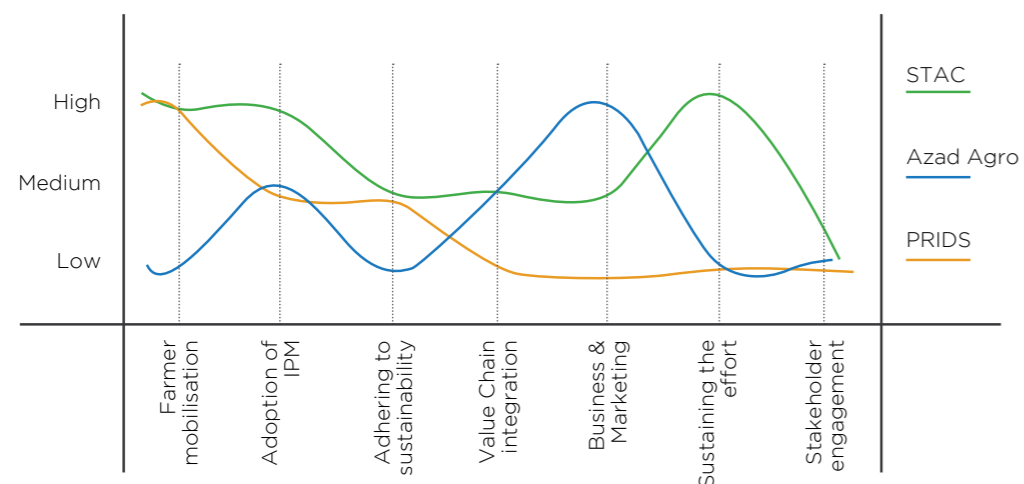
To bring out learnings from the project design and implementation of different initiatives across three models, IDH commissioned Ecociate Consultants to conduct a learning study. During the study, Ecociate interacted with relevant stakeholders: participating farmers, trainers, field facilitators, input providers, processors, and buyers across the three project geographies, and analysed available documents and reports to develop comprehensive understanding and insights around the program.

It may be noted that characteristic features of focus value chains, the business model of the implementation partners, geographies, and target groups were central to influencing

various activities and outcomes in the respective projects. It was observed that these features led to unique implementation activities and outcomes, some fulfilling desired expectations set out by SSI-I while others highlighting areas for improvement.

As the set of learnings from each of these models is unique, rather than comparison it is more feasible to indicate conditions, approaches, and practices to arrive at a set of pre-requisite conditions for designing and implementing sustainable spices projects by SSI-I. The three IPs have, therefore, been assessed according to a set of important program indicators below:

Figure 2: Sustainable Agri Practices : Key strengths of each IP



Note: The ratings mentioned in the above infograph are relative to each other based on the level of performance or impact seen during the duration of this research report. It does not, in any way, reflect or compare to the general industry standards or practices seen in India.



Key Outcomes and Observations



Selection of value chains and local market dynamics play a key role while formulating the implementation plan, desired outcomes, and adoption of Package of Practices

Price discovery mechanisms and government policies on prices of the crop influences the extent of cultivation of the crop in each agricultural season. Additionally, alternate crops available to farmers in the implementation geographies as well as income contribution of the spice crop to the overall household income are factors governing rigidity with which farmers may adopt Package of Practices (PoPs). For instance, the chilli value chain analysed in the project required greater



support across post-harvest and marketing functions while promotion of Good Agriculture Practices was seen more critical in the turmeric value chain.

All the IPs were observed to have implemented Integrated Pest Management (IPM) practices well, with good adoption of these practices by the participating farmers


Under the three SSI-I projects considered, more than 1000 acres of land for each spice – chilli, turmeric, and coriander – have been covered under IPM practices. On a High / Medium /Low ‘relevance scale of IPM’, chilli production in Khammam returned with a high relevance while coriander in Kota and turmeric in Kandhamal returned with low relevance. Notwithstanding this, all the IPs viz., PRDIS, STAC, and Azad Agro, implemented IPM practices extremely well wherein adoption of these practices by the lead farmers was observed during the farmer interactions.



Chilli farmers under the project in Khammam region reported that quality of their produce has improved (better colour along with better weight) due to the practices adopted under SSI-I, especially under IPM and agro-chemical management. Turmeric farmers in Kandhamal region reported that adopting better harvesting and post-harvest management practices resulted in improved quality of the final produce in terms of curcumin content and colour. Coriander farmers stated that the need of seeds was reduced by half, i.e. from 15 kgs/acre to 6 kgs/acre post SSI-I interventions, leading to better income

Reduction in use of chemical fertilizers and responsible agrochemical management were observed as key outcomes of the SSI-I initiatives across the three pilots

The agricultural practices followed by the farmers in Guntur and Khammam were observed to be improved in the areas of sowing, pest management and intercropping etc. Along with this, the awareness and knowledge around the good agricultural practices was found to be adequate. In a separate independent end line survey conducted by SSI-I through an external evaluator in 2018 in PRDIS project area, the usage of chemical fertilizers was recorded to have decreased and the participating farmers reported higher usage of bio pesticides.




An independent end-line survey conducted in 2018 with the PRDIS chilli farmers in Khammam project area in Andhra Pradesh indicated that the usage of chemical fertilizers was recorded to have decreased by more than 20% and the participating farmers reported higher usage of bio pesticides

Reduced cost of production as a result of following IPM practices and improved quality of produce led to comparatively better price realization in the local domestic markets in some of the initiatives

While meeting quality requirements of markets, reduced cost of production as a result of following IPM practices and improved quality of produce leading in general to comparatively better price realization in local domestic markets were reported to be major positive economic outcomes for program farmers. Tangible positive results were observed by the turmeric farmers such as increase in productivity, low resource utilization in processing, improved curcumin content and colour, etc. These incentivised farmers' retention in the project.

For a few IPs, a local aggregation model ensured better post-harvest handling of produce and preserved



An internal study conducted by STAC post SSI-I interventions found that the farmers had improved incomes ranging from 25-35%, post program interventions over a period of 3 years.

Similarly Azad Agro reported that focus on gender empowerment enabled livelihoods for nearly 300 women for value addition activities such as setting up small scale spice processing facilities for sustainable income. Azad Agro also facilitated better wages for the women labours in their programs who were paid at least 1½ times the market rate for their work.


the value of the crop. With quality assurance mechanism in place, farmers fetched better market price.

Azad Agro reported procuring 300 MT of IPM coriander from farmers, which was sold to an SSI-I partner; 500 MT of traceable coriander was procured directly from farmers and linked with another major market player through SSI-I linkages and networks. Similarly, 4000 MT of coriander procured from farmers

and open market was sold to spice manufacturing units. An established processing unit acted as a fillip for the Azad Agro model. They, in turn, set up their procurement mechanism to source IPM material. This was vetted by market players who shared Azad Agro's ability to supply processed IPM material. This was a big advantage and made Azad Agro a preferred supplier.

Improvement in soil health was observed as another positive outcome by the project farmers

Farmers in the PRDIS and STAC area reported that practices such as intercropping, border, and trap crops have led to reduced pest attacks, improvement in soil health, and increased availability of fodder for animals. In the Kandhamal region managed by STAC, all the interacting farmers mentioned that optimal use of Sal leaves as mulching material contributed to less weeds and enhanced moisture retention capacity of the soil, with women farmers accurately articulating the role of 'pulses' in 'nitrogen fixation' in the soil.



Azad Agro estimated that SSI-I interventions on usage of inputs lead up to 20% reduction in urea consumption among project farmers, thereby improving soil health as well as low cost of inputs for the farmers.

While typical Backward Integration models have robust monitoring mechanisms but tend to be resource intensive, SSI-I initiatives were designed to be lean to cover higher number of farmers. Many spice exporters / companies have been observed to run their backward integration (BI) programs for procurement of spices that meet standard and quality requirements of respective export markets.

However, it is important to note that it takes several years to get 100% compliant material from their captive geography. For example, it took ~4 years for one leading Indian spices company running a BI model to reach 100% compliant material. Moreover, a BI model is also very resource and cost intensive as it has a higher degree of control over the participating farmers as well as exhaustive monitoring and evaluation mechanism. The SSI-I initiatives were designed in a way to cover higher number of farmers and maximize the outreach of different initiatives.



However, effectiveness of extension services to farmers was limited in terms of the outreach and could have been improved through adequate needs assessment to address the contextual needs of crops and farmers

While Training of Trainers (ToT) advocated by SSI-I was considered to be very useful for the Program Unit manager and on Field Facilitators (FF), it was observed at the IP level there was not sufficient local training needs assessment conducted to address the contextual needs of crops/farmers. During assessments, recall of farmers was limited to few sustainability parameters such as reduced chemical input usage and soil health management.

Maximum Residue Limits (MRL) compliance was limited due to less understanding for market demand and offtake agreements. While the initiatives had mandated the local Implementing partners to specialize on farmer mobilization and capacity building, MRL compliance to suit the needs of premium formal buyers was limited. While the Farm Trainer-based engagement model was utilized for training, its impact on achieving MRL compliance was limited often due to external factors. For example, for Chilli farmers in Khammam,

Post the initial project review, SSI-I arranged an assessment of the training needs of the participating farmers through an agronomy expert, whose recommendations included an increased field facilitator to farmer ratio with more rigorous handholding, improved record-keeping and better transfer of knowledge from lead farmers to all project farmers. Based on these recommendations, a technical committee was set up to standardize training material and provide inputs to program teams.

certain growth regulators, reportedly sold as organic, were available in the market by the name of 'Bios'; however, these were often reported to contain banned or expired inorganic chemicals. Furthermore, some chemicals used in other crops/seasons on the same soil may have a long half-life¹, affecting MRL levels of the spice crops in lab tests. Program

¹ Half-life is the time taken for a certain amount of a pesticide to be reduced by half, as it dissipates or breaks down in the environment.

farmers are also known to share spray machines and equipment on rent with non-intervention farmers, increasing possibility of contamination with non-recommended chemicals.

Though establishing sustainable market linkages was a key component of the SSI-I initiatives, less understanding of the IPs on critical areas such as market analysis, aggregation capacity, MRL compliance needs, and product specification design limited the offtake. Orientation of the IPs on Sustainable Agricultural Practices (SAPs) and introduction to market players under the SSI-I program exposed them to a new competitive market landscape. However, in the absence of an intensive value chain analysis and deep understanding on MRL compliance, IPs struggled with value chain nuances of their respective crops and, therefore, developing sustainable market linkages for farmer produce was a challenge. For example, while STAC did engage with markets to get buyers for sustainable turmeric, they found that bulk buyers' commercial offering was lower than the prevailing Minimum Support Price (MSP) and hence could not establish linkages with remunerative markets. The IPs could have managed the market linkages better through better upfront market analysis during the design of the project, better introduction and design of product specifications, and establishing connects within the SSI-I members. SSI-I members spoken to as part of this study did share an inclination to source spices from program farmers but indicated that they either lacked

aggregation from the IPs or limited management capacity at the IP level.

While all the IPs engaged with technical advisory providers and potential buyers, their engagement with other stakeholders in the value chain ecosystem, particularly state government departments, and domestic and regional market players, was lacking. The analysis also suggested that very less efforts were made by all the three IPs to apprise other local and regional ecosystem stakeholders such as registered agri input retailers, lab operators, certifying agencies, agro machinery manufacturers, agro-processors, market intermediaries (Traders, Commission Agents), and e-commerce players (online platforms) about the program, work to complement similar activities, and to collaborate with them.

The intensity of the on-ground support required to either promote GAPs or market linkages varied from crop to crop and geography, should be taken into cognizance while implementing interventions. For instance, in the case of Azad Agro, the IP being a processor-cum-trader of coriander, it created strong market linkages with domestic buyers as well as export players. The IP's understanding of the coriander value chain (particularly the market aspects) helped it to maintain a consistent production quantum from the production hub of Kota (located in the western part of India), even when many farmers were shifting away from coriander farming due to attack of 'stem gall' disease.

A better gender mix among training farmers could have been utilized to improve effectiveness of training. At PRDIS and Azad Agro, trainings were mostly imparted to male farmers around agricultural operations, while it was reported that preparation of spraying materials, filling the spray pumps, preparation of bio-inputs etc., were mostly carried out by women farmers. Some activities revealed stronger outcomes. For example, the introduction of proper seed treatment was effective in controlling pest attack of stem gall, thus reducing the crop loss that was experienced in the previous years.

High ratio of farmers to field facilitators (FF) was cited by the IPs as a limitation to effectively train farmers and scale operations.

Brief Conclusion of the Implementation Partner analysis

Based on the analysis of the operations of the IPs and inputs from the sector experts within the SSI-I team, a few key conclusions can be drawn:

- IPs need to balance IPM practices, understanding of MRL compliances and responsible agro-chemical management to facilitate business between farmers/farmer institution and the market players.
- IPs should also invest in capacity building of their own staff on agro-marketing and sales other than capacity building of the farmers on good agriculture practices.
- The efficiency of the outreach to the farmers by the field facilitators could have been improved through better planning and use of telecommunication methods.
- IPs must have in-depth understanding of the value chain of the focus spice crop. It must be aligned to the requirements of the buyers and has the wherewithal to implement the program balancing the requirement of farmers and buyers.
- IPs must have clear understanding on the business dynamics and commercial dimensions for establishing linkages between farmers and buyers, apart an understanding of legal and commercial compliances.

However, efficiency of the outreach could have been improved through better planning and use of telecommunication channels.

The IPs and the FFs covered during the interview were of the view that a high ratio of farmers to FFs had led to less effective coverage and inadequate visit to the farmers and their fields at regular intervals. This may have caused non-compliance of some of the interventions suggested under the project. However, it has also to be noted that the efficiency of the outreach and low utilization of telecommunication channels and technology solutions by FF could have limited the speed of their outreach. A realistic balance between the number of FFs to the farmers needs to be maintained to ensure the efficiency and financial visibility of projects.



Recommendations



Perspectives of SSI members were taken into consideration while developing the key recommendations and areas of improvement in the existing initiatives

The interviewed members and corporate buyers were of the opinion that a platform such as SSI-I is crucial for driving sustainability in the spice sector in India. The initiative was aptly timed since the Indian spice sector, in the last few years, has faced issues related to rampant use of chemicals and less sustainable farming practice. Also, regulatory push from organizations such as Food Safety and Standards Authority of India (FSSAI) in India aim to promote safe food through



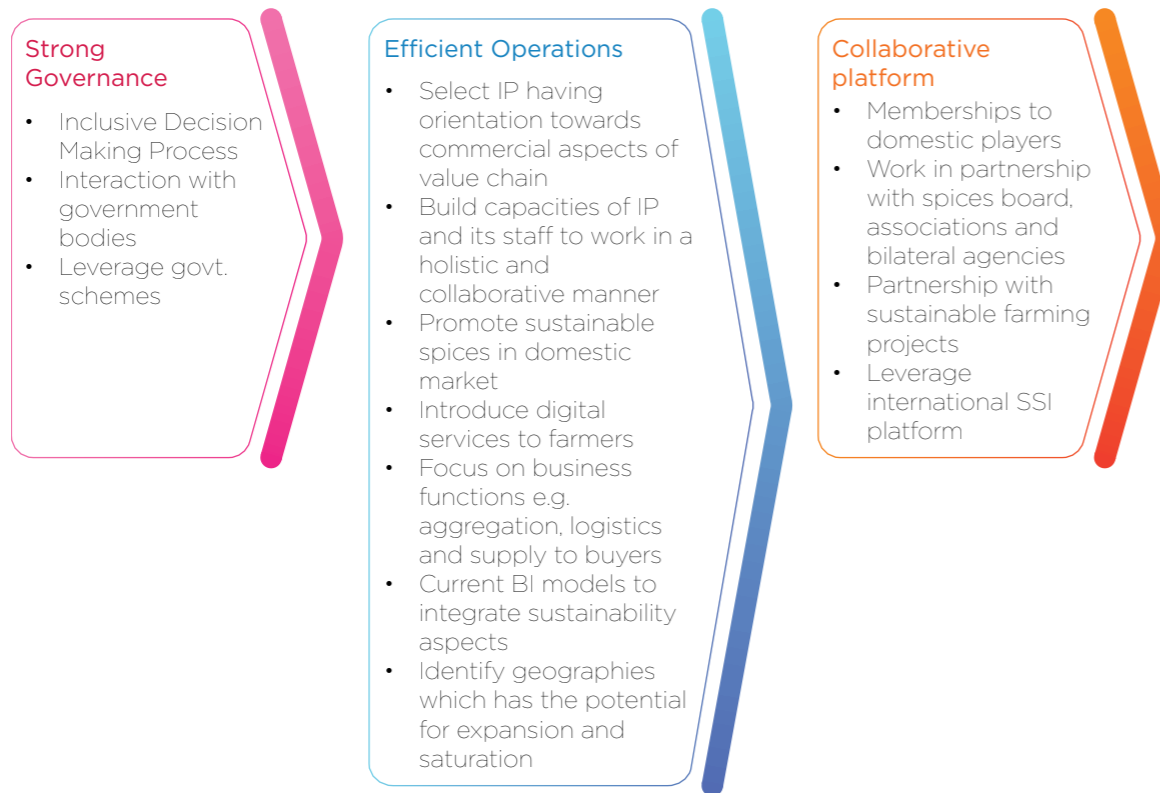
responsible use of chemicals. In terms of benefits from participating in the platform, Indian spice exporters saw SSI-I as an opportunity to showcase their efforts towards sustainability and gaining global visibility.

To summarize the key observations shared by SSI-I members include:

- The SSI-I program and interventions came at opportune time as the Indian spice sector faces issues related to promotion of sustainable practices of farming.
- It was reiterated by many members that while ensuring adoption of sustainable practices, the program should also ensure that the business requirements of SSI members, which is to get MRL compliant produce, is prioritized and fulfilled. A program design that incorporates the need and deep understanding of the MRL requirements should be developed by the IPs.
- While initiatives developed by SSI-I may augment and enhance the competition among the buyers, it would serve the larger interests of the sector on sustainable supply and may improve the small-holder farmer income.
- One of the key benefits seen by the global spice players associated with IDH's SSI-I was that Indian spice exporters saw the program as an opportunity to get global visibility and leverage the platform for association with buyers in international markets.
- SSI-I members also felt that aggregation of the produce and assigning a single point of connect for the sales and marketing queries in case of not for profit-oriented IPs should have been properly managed to improve market linkages.

Inputs from the SSI-I members in terms of strengthening the platform to better perform its role and transition to a more holistic next level has been captured in the info graph:

Figure 3: Suggested role and areas of focus for SSI-I platform



Learnings and feedback for designing the next phase of a more market oriented sustainable spices program that balances the training programs with need of MRL compliance. With a lens on program sustainability, the Field Facilitator-led extension model may have to move away from funded extension to self-sustained models for both product and services. Entities engaging in last mile delivery of services to farmers, therefore, should (i) have good ground presence and relationship with farmers, (ii) have clear understanding of the end goals of the project and, (iii) be aligned to the requirements of the buyers. The Agri Entrepreneur (AE) model utilized by

many organizations (including IDH) to enhance value chain operations, uses a technology-enabled platform and can become the new extension mechanism for effective knowledge transfer, addressing the multiple issues leading to non-compliance.

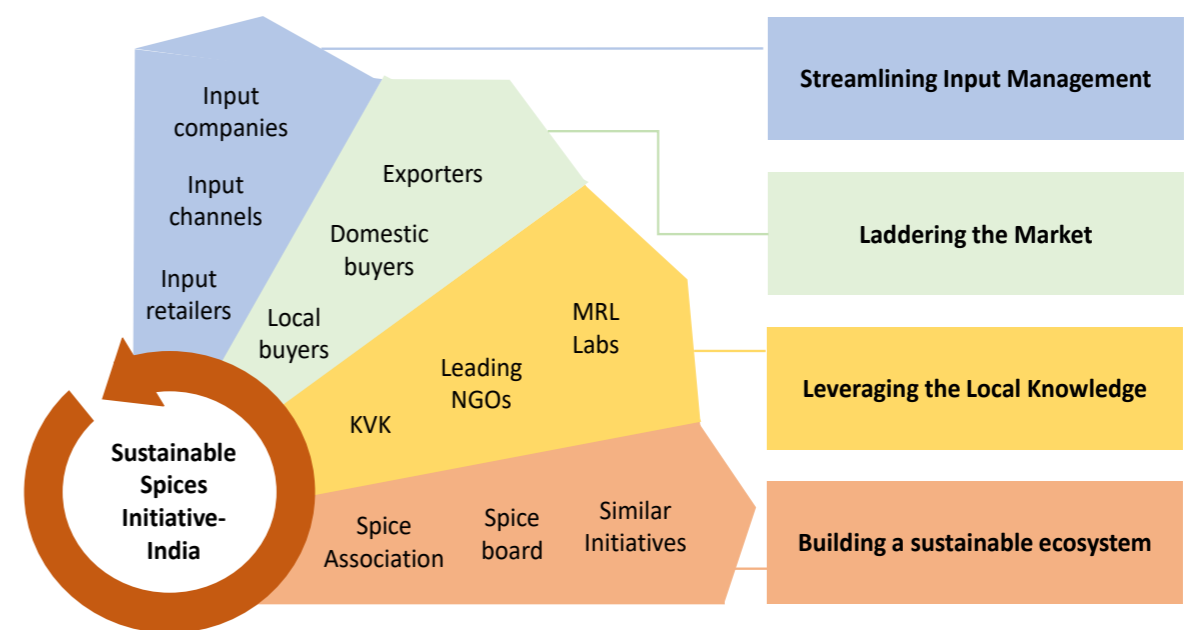
A market linkage strategy that focuses both on export as well as domestic markets and takes a gradual approach towards confidence building of the farmers with the key buyers and vice versa could be utilized. Deeper engagement with consumers through awareness creation could be explored as a strategy to create effective demand for sustainable spices. If the intervention model

has no dedicated buyer/exporters attached, economic returns to the farmers gets adversely affected. Graduation from 'catering to local market' to servicing export market could have been a robust strategy. Bringing local market players on the SSI-I platform, gaining from the learning of this strategy could have provided insights and pointers to advance towards tapping export markets through exporters. Empowering farmers to tap local markets is desired both as a risk mitigation mechanism and towards making sustainable spices a new normal in domestic markets. Moreover, some exporters and buyers are of the opinion that FSSAI's stringent food safety norms, which are now not mandatory for domestic markets, would change subsequently. Hence, experience of working on sustainable sourcing would be beneficial in due course of time.

Ecosystem integration - Working closely with other stakeholders in the value chain would cover all the critical aspects of a project design

While working on a sustainability project, it is vital to appreciate the stakeholders and the ecosystem that can support the endeavor. Key stakeholders can include input retailers; lab operators; scientists at Line Departments; Krishi Vigyan Kendras; implement and machinery fabricators/ manufacturers; processors; market players (intermediaries, traders, commission agents); organized retailers; e-commerce players (online platforms), and consumers, among others. It was observed that across the three models, ecosystem appreciation and leverage could have resulted in greater learnings and favorable outcomes. Further, collaboration and convergence

Figure 4: Suggested stakeholder management for SSI-I



with the following entities in the immediate ecosystem could have been attempted for better results:

a. Input retailer engagement:

Following the IPM advisory, farmers have begun to visit the input retailers' stores to purchase the recommended inputs. The input retailer is one of the most powerful influencers in helping farmers decide upon what to purchase. Creating awareness about the project at the input retailer level would have helped create a meaningful dialogue between farmers and retailers. Certain retailers may have stocked the recommended inputs and farmers would have gained from easy access to them.

b. Ascertaining fertilizer quality:

Fertilizer and micro-nutrient application should be governed by soil test reports. However, ascertaining the quality of fertilizers available in the market is desirable. It would be good to engage with the State and District Fertilizer Inspectors to receive updates about the various aspects of fertilizer quality, to avoid the purchase and use of spurious or adulterated products.

c. Market players: It is known that tie-ups with desired market players did not materialize as the produce failed the maximum residue level (MRL) test. However, engagement with



prospective market players could have been more regular and inclusive to build mutual trust.

Moreover, local market players, particularly traders who provide finance to farmers to cultivate chilli, could have been roped in as important stakeholders. With the assured availability of IPM produce, they may have found better forward markets for produce and may have been in a position to offer better prices to farmers.

d. Government schemes: It is imperative to gather information about the government's focus on crops and agricultural practices, and associate with them to benefit

e. Backward integration (BI) players: Specifically, in the case of chilli, many companies run BI models in several geographies (e.g. Bhadrachalam was the closest to Khammam where many companies fine-tune

their BI models). A few such SSI-I players have lent their expertise in building the GAP training module. However, their experience could have been leveraged for process management and marketing management.

f. Labs: There are very few laboratories conducting residue analysis. These are manned by experts who not only report residue levels, but if engaged, can identify the causes of any non-compliance and help mitigate them in the subsequent crop cycle.

g. Certifying agencies: Agencies in the business of certification are among the best placed to help IPs in management and operations monitoring. These agencies have updated information about the changes in residue levels. Association with them would help in devising ways and means to get compliant material.

The use and integration of Agriculture technology (Agtech) platforms with crop information-based mobile applications, audio-visual messages and text messages should be investigated. However, such applications must be simple enough to be used easily by the field workers. They can also enable the efficient flow of information from buyers to farmers, the delivery of crop advisory, and ensure traceability and real-time monitoring. As such, they should also be a part of the next phase of SSI-I development or transition. Similarly, understanding the buyer's requirements and general market needs could be facilitated by the AE or the aggregator in the value chain.

Farmers' expectations about market linkages and premium pricing should also be managed adequately. Considering the great demand for spices in the domestic markets, a stronger focus on local or regional market players and processors can also ensure better market linkages for farmers.

To design the next phase of sustainable spice engagements, the areas to continue strengthening are:

- Making last-mile delivery efficient and effective
- Updating PoP and IPM practices
- Creating a system for ready access to market information, including changing MRLs across export destinations
- Taking a gender lens on



performance evaluation to ensure more women farmers are included in training and marketing capacity-building

- The project resources were spent largely on building farmers capacity, and investment in building IP staff capacity was limited. The IP capacity-building program should have focused beyond technical IPM, and covered other sustainability aspects, particularly effective post-harvest management and the scouting for and negotiating market linkages.
- Designing a cost-effective system to build the capacity of farmers and farmer institutions; leveraging finance from government schemes and other sources
- Accounting for the role played by

ecosystem actors including agri-input suppliers; lab operators; certifying agencies; implement and machinery fabricators/ manufacturers; processors; market players (intermediaries, traders, commission agents); organized retailers; e-commerce players (online platforms); and consumers, among others

- Both domestic and export markets need to be recognized as potential markets for sustainable spices. Export markets' cost of compliance is around 1 to 15 percent of the total costs incurred. In comparison, the compliance cost for the domestic market is around 3 to 5 percent, as compliance issues are not as stringent as export markets, an interviewed SSI-I member revealed.

- Using technology platforms to enable efficient flow of information from buyers to farmers, delivery of crop advisory, traceability, and real time monitoring is suggested to find inclusion in SSI-I's next phase
- Simple-to-use mobile applications and an assisted-model of use of technology platforms are likely to gain more traction and use among farmers and aggregators. A few technology and mobile application initiatives piloted during the projects were discontinued as they needed

intensive data capture at the field level, and significant cross-checks for data validation, a skill which the field facilitators often lacked

- A Backward Integration (BI) model identified that it took around four years to reach 100% compliant material. The SSI-I program, whilst not implemented in the rigor with which BI models are run, needs be more patient and invest prudently to achieve similar level objectives, albeit at a greater scale and across geographies and commodities.

Suggestions on sustaining the efforts for SSI-India

A long-term strategy ringfencing critical aspects is required to sustain the effort beyond its pilot stage for SSI-I operations. Some of the critical aspects that can be considered are:

- Retaining farmers through better access to advisory services and market linkages
- Making last-mile delivery efficient and effective,
- Developing robust farmer institutions and making the PoP and IPM practices contemporary
- Creating a system for accessing information about changing MRLs across export destinations
- Creating a system for ready access to market information

- Building the capacity of farmers and farmer institutions
- Creating a system to leverage finance from government schemes, financial institutions and other donor/grant organizations.

While both technical inputs and financial contributions have flowed from SSI-I to IPs, it is imperative to integrate the above-mentioned aspects in the SSI-I approach to sustain efforts. A few models being piloted by the IDH team, such as the Agri-Entrepreneur (AE), can be tested to carry out some of the above activities. Similarly, a focus on domestic markets for spices, especially for market linkages, can improve farmer retention and commitment.



Perspectives and Way Forward:

IDH and industry stakeholders view

IDH contemplates a catalytic transformation for India's spices sector, by building upon SSI-I pilot projects learnings and addressing missing links to ensure the sustainability of a program of this nature.

The program has appreciated the civil society-led farmer training model (PRDIS); the market-led model (Azad Agro); and the social enterprise model (STAC). In the second phase, it wishes to develop its learning of working on the market (demand-side) and create a sustainable market-driven platform for spices in India. Towards this, it proposes to identify, capacitate and/or create 'aggregators' (intermediaries), preferably social enterprises, who would deliver on the sustainability goals. Some of the key elements IDH proposes to bring into the program are:

- Convene the key public and private domain stakeholders and farmer groups under one platform. The platform aims to convene diverse stakeholders such as Government entities (the Spices Board of India), private sector spices players, exporters, and farmer groups on a common platform. In addition, bilateral players such as GIZ and stakeholders such as FSSAI will also be brought onto this platform. The platform will consolidate and align with the work of diverse stakeholders. The involvement of SSI Global will add the global voice to the discussion.
- Strengthen demand generation for sustainable spices in India by working closely with FSSAI, Indian markets and consumers.

The regulatory environment, as indicated by FSSAI, will drive the domestic market to look for food-safe-spices. This is achievable through IPM (among other methods) and may enable compliance to the required residue levels. However, working on the sustainability aspects' on the plinth of a favorable regulatory environment would be an important addition that IDH proposes, to address during the second phase of SSI-I.

- Drive the market by working closely with the buyers who have committed to procuring sustainable spices in India. Irrespective of their end market – Indian (local domestic) or International (export) – their intent to source sustainable spices would be ascertained before they are onboarded. These buyers (SSI-I members) will be involved in co-designing the program's second phase and work towards the spice sector's development. Phase 2 will respond to one of the asks from these buyers: to provide the quantity and quality of spices required, which can be supplied by the new aggregator-powered model.
- Partnering with right aggregators (intermediaries) – Companies running BI programs are aware of the amount of money spent to ensure the supply of MRL-compliant, child labor free spices production.
- Promote transparency of supply chains and traceability: A secure supply chain and the financial self-sustainability of any future intervention are imperative for SSI-I. In this new model, the aggregator (intermediary) will work across the spices value chain and provide bundled services including finance, inputs, agro-advisory, capacity-building, traceability, market linkages, among others to smallholder farmers, who in turn, are willing to commit to producing sustainable spices.
- Improved extension services to the farmers: IDH is of the view that for the aggregator-powered model to achieve scale and deliver on sustainability, the use of-IT enabled mechanisms (agtech) would be integral in the second phase of SSI-I. The SSI-I will have to institute a stringent due diligence mechanism to select the right aggregators (implementation partners), preferably social enterprises, to undertake the above-mentioned activities. A comprehensive monitoring system (whose parameters will be decided by members) will be required to make this arrangement work. Though it may increase the management and monitoring cost at the SSI-I program level, it can potentially deliver a behavioral change model both at the aggregator and the smallholder farmer level.

mechanisms will (i) ensure efficient flow of information from buyers to farmers; (ii) deliver crop advisory; (iii) ensure supply of quality agri-inputs, and (iv) ensure traceability and real-time monitoring. Investment towards developing suitable and comprehensive 'agtech', managing and running the technology, and building the aggregators' capacities will be important in the second phase.

- Creation of an Impact Fund for aggregators (intermediaries) so that financial services can be offered to farmers and farmer collectives, through the aggregators. Offering innovative financial products and attractive interest rates, the fund will be accessed by the aggregators who commit to deliver on sustainability goals and work with smallholders to increase farmers' income. It is envisaged that a range of activities will have to be carried out by the aggregators, who typically deliver MRL-compliant produce (spices), to

deliver sustainable spices. The associated cost to implement these would have to be borne by them. This fund will enable them to graduate from delivering MRL-compliant produce to delivering sustainable spices. This assumes significance as the high cost of conventional capital may hinder the implementation of the critical activities around sustainability.

- Creating sustainable spice clusters by saturating the implementation area in contiguous villages (both within and nearby) in a community development block² is a strategy that can help in effective monitoring and aid in timely corrective action. In addition, a saturation approach will boost business by enabling economies of scale and adherence to quality standards
- Intensive monitoring protocols, both online and offline, would be developed to ensure that these envisaged outcomes are achieved



² Block is a district sub-division for the purpose of Rural Development department and Panchayati Raj institutes.



Annexures



Annexure 1: Study Methodology

Key objectives of the study have been briefly summarized:

- Evaluate and document the performance of the SSI-I program in terms of its design, approach and overall impact on project stakeholders
- Evaluate the SSI-I program's overall outcome, with reference to the intended outcomes
- Review the different implementation models executed during the project period and identify the model best suited to the Indian context
- Identify and document the views of the private sector partners about the SSI-I platform, in terms of its design and approach, their motivations, and areas of future engagement
- Understand the project's economic and social outcomes from the point of view of producers
- Compare conventional Backward

Integration programs/models of the private sector vis-à-vis models pursued under the SSI-I program

- Analyze changes in Residue Level (RL) in chilli, turmeric and coriander as a result of changes in the package of practices adopted by farmers in the SSI-I program

Interactions were held with a range of stakeholders to develop a better understanding of implementation models under SSI-I and draw learnings and insights from these models. Appropriate research tools were also administered to ensure structured discussions. The study included both review of available secondary reports (Reports, Minutes of Meetings, Farmer Field Books and Sustainable & Good Agriculture Practice documents) and collection of primary data using the qualitative research methodology. The table below captures the list of major stakeholders engaged during the study, along with the research tools used for the discussions.

Stakeholders	Research tool used	PRDIS Khammam, Telangana	STAC Kandhamal, Odisha	Azad Agro Kota, Rajasthan
		Spice: Chilli	Spice: Turmeric	Spice: Coriander
Consultation workshop with IP	Discussion Guide	PRDIS head office, Hyderabad	STAC project location, Daringbadi	Azad Agro's processing plant, Arankheda
FGD with male farmers	Discussion Guide	FGD in - Chimmappudi Village (16 farmers)	FGDs in - Basibadi village (15 farmers) - Toperingia village (12 farmers)	FGDs in - Arankheda village (15 farmers) - Balapura village (15 farmers) - Suhana village (10 farmers)
FGD with female farmers	Discussion Guide	FGD in - Chimmappudi Village (six farmers)	Discussion in - Takarmala village (10 farmers) - Toperingia village (15 farmers)	- (IP could not mobilize female farmers)
IDI with input supplier	Checklist	- Supplier in Chimmappudi village - Supplier in Khammam town	-N/A	- Suppliers located in Kaithun town
IDI with traders of focus crops	Checklist	- Local Trader in Chimmappudi village	Leading Trader-cum-processor located in Phulbani	Traders located in the Agricultural Produce Marketing Committee, Kota
IDs with Backward Integration player	Checklist	BI Player with a coverage of - 200 chilli farmers - 800 chilli farmers	No BI Player available in the project geography	No BI player available in the project geography
Discussion with SSI-I members and other stakeholders	Telephonic discussion	<ul style="list-style-type: none"> • Mr. Bala, Akay Flavours • Mr. Bhavik Desai, Jayanti Foods • Mr. Alfons van Gullick, Nedspice • Mr. Chandrashekhar, OLAM • Mr. Sanjeev Bisht, ITC • Mr. Ritesh Gupta, Nestle • Mr. Phillip Kuruvilla, Advisor, SSI-I 		
IDH	Telephonic and personal discussion	<ul style="list-style-type: none"> • Mr. Jan Gillhuis, Global Coordinator, Sustainable Spice Initiative • Mr. Bhavit Pant, Coordinator, Sustainable Spice Initiative, India • Mr. Pramit Chanda, Country Head, IDH 		

Study Limitations

- The learning study was carried out after the project tenure of IPs had concluded. The PRDIS was no longer maintaining its field office in Khammam. Similarly, other IPs had diverted their staff to other projects. Thus, we could only interact with the limited staff available during the field visit.
- There were no Backward Integration (BI) programs observed in the project locations of turmeric and coriander. However, it must be noted that the SSI-I initiatives were designed to be leaner, with higher coverage of farmers compared to BI programs which are typically cost-intensive and lesser in scale. However, a direct comparison between these was not feasible due to the unavailability of comparable reference points in the project areas
- The study team tried to reach out to the project farmers in the Azad Agro area. However, they could not meet many farmers in the villages suggested by the IP, as a majority did not take up the coriander crop due to crop losses in previous years
- By virtue of qualitative study design, interactions were limited to IPs, project farmers and other indicated stakeholders, and no quantitative survey was conducted. The findings represented in the report are drawn only from these interactions.
- Analysis of changes in chilli, turmeric and coriander Residue Levels (RL) due to changes in the package of practice adopted by farmers in the SSI-I program could not be ascertained accurately. A package of data was collected by PRDIS on MRLs in chillies' value chain during the start of the project. However, it was discontinued due to a lower understanding of its criticality and the low availability of testing facilities nearby. Residue levels before starting the program were not measured. Nor was any annual recording of the commodity residue levels maintained adequately by the IPs. Consequently, a comparative assessment was difficult to complete.

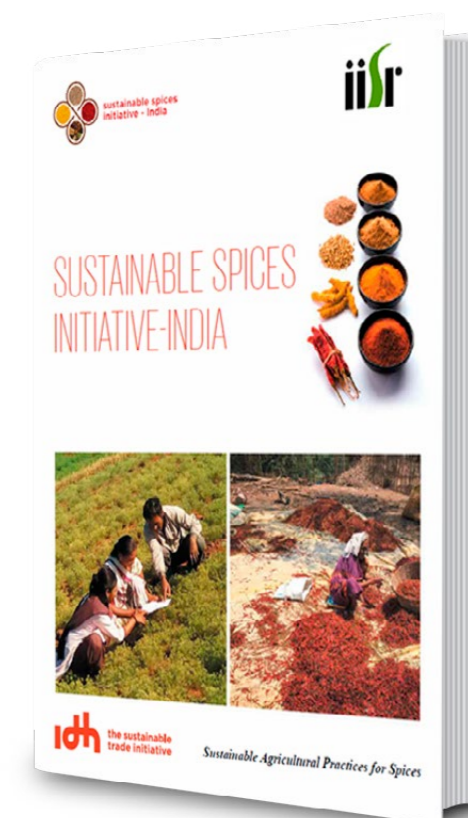


Interaction with Male farmers in project area of Azad Agro

Annexure II: Sustainable Agricultural Practices (SAP) Document

SSI-I designed the Sustainable Agricultural Practices (SAP), a package of practices for sustainable spices production. SAP has five core components that consider not only the food safety and agronomic implications of sustainability, but also the economics and developmental aspects of the farming community:

- **Food Safety:** A key requirement for participating farmers is spices' compliance with pesticide residue and food safety requirements
- **Community Development and Well-Being:** Community development is a process where community members come together to take collective action and generate solutions to common problems
- **Optimum Available Resources Management:** Optimizing resource systems through appropriate management practices, enabling users to maximize the economic, environmental and social benefits of their limited resources, whilst maintaining or enhancing the ecological support functions of these resources
- **Proactive Farming Systems:** The primary objective of proactive farming systems is to



The Sustainable Agricultural Practices Handbook can be accessed at <https://ssi-india.org/>

develop farmers as businessmen focused on improving productivity, increasing profitability, ensuring sustainability, guaranteeing ethical working conditions and ensuring the equitable distribution of the results of production (labour wages, etc.)

- **Value Addition Activities:** The focus is on unlocking innovations that can enhance livelihoods and embed sustainability within the farming system



sustainable spices
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www.ssi-india.org



www.idhsustainabletrade.com

SSI-I PARTNERS

AB | MAURI



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Expovan
crafting the finest Vanilla

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Jayanti



NANI

NEDSPICE



Olam

Synthite

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