INDIAN STANDARDS FOR SUSTAINABLE SOY

Under Guidance By:

ICAR - INDIAN INSTITUTE OF SOYBEAN RESEARCH

Implemented By:

SOPA | Solidaridad

Foreword

It's with great pleasure that we present the "Indian Standards for Sustainable Soy (ISSS)". The document on ISSS is introduced as a catalyst for bringing transformational change in the Indian soy sector. The standard is embedded with the national priorities and commitments towards sustainable soy production and trade. The implementation of these Standards would enable the soy sector to thrive in a sustainable manner in future.

The soybean crop was introduced for commercial cultivation in India in late 60's, and in a span of 5 decades, it has become the most important among nine major oilseeds crops in India. The crop, in addition to alleviating the socio-economic status of small and marginal farmers, has played a pivotal role in national and oil economy of India. Presently, soybean contributes around 37% to the total oilseeds and around 20% to the total edible oil production in the country. India ranks fourth in area and fifth in production of soybean in the world. The crop is consistently helping in offsetting the expenditure involved in the import of edible oil from other countries. The crop has also contributed significantly in earning foreign exchange by way of export of soy-meal in the past. However, the export of this by-product has fallen the in past few years, mainly on account of increased domestic demand and consumption as feed/meal. Soy seed contains around 40 % protein and 18% oil and it is one of the most economical source of good quality protein. It also contains many minerals and useful nutraceuticals like iso-flavones having immense health benefits. Therefore, the crop has potential to provide nutritional security and eradicate rampant malnutrition prevailing in the country.

We acknowledge that there is a significant gap in the social, environmental and economic performance of soy sector in India. There is a perceptible gap between presently realized yield and potential yield of improved soybean varieties. The contribution of good agricultural practices for sustaining the improved productivity remains to be fully realized. Adoption of available climate resilient varieties and technological interventions is capable of bridging the existing yield gap and thereby enhancing the domestic availability of edible oil through higher production of soybean. It will also raise the income of farmers. Higher adoption of improved crop management practices is inevitable for increasing productivity and profitability from the crop enterprise. Therefore, increasing productivity is one of the key sustainability issues which need to be addressed adequately. In addition, other interlinked sustainability issues i.e., smallholders' livelihood security, climate change related risks, soil degradation, water related issues, poor timely availability of / access to quality inputs/seeds and market linkages, etc. need to be concomitantly addressed. Therefore, it is important to address mentioned sustainability issues of the soy sector through development of 'Indian Standards for Sustainable Soy (ISSS)' and motivating soybean farmers to adopt the same through the synchronized efforts of governmental and non-governmental agencies linked with soy sector.

Functioning of Solidaridad with soy sector stakeholders and farmers in India from the year 2008 on sustainable production of soybean, prompted the concerned to think in the direction of framing of standards for sustainable soy so that the entire soy sector may be benefitted. This required to bring all the

stakeholders under one umbrella and go about it with input of all of them. Hence, the journey of 'Indian Standards for Sustainable Soy (ISSS)' started in the year 2015, with conceptualization of National Platform for Sustainable Soy. With overwhelming response and encouragement over the years by the sector stakeholders, especially the Indian industries, ISSS has been developed with many rounds of consultations engaging key stakeholders representing the government, businesses, industry associations, farmers and civil society organizations, etc.

It is developed in close collaboration with ICAR-Indian Institute of Soybean Research (IISR), The Soybean Processors' Association of India (SOPA), Indian industries, businesses, producers and relevant authorities. The rationale behind the standards is that it is better adapted to the local context and more cost-efficient, and, therefore, more applicable to smallholders who are often not part of the global supply chain. The standards would provide India's own sustainability benchmark for sustainable soy production and trade. It is based on 4 key pillars that are, i. economically viable ii. socially acceptable iii. environmentally compatible and iv. technologically appropriate and aligned with national legislations and regulatory requirements. While developing the standards, other similar national and international standards were also thoroughly studied with the objective to create alignment with those. Therefore, ISSS provides a potential opportunity to complement the requirements of similar sustainability standards elsewhere.

We firmly believe that the ISSS would serve as a key instrument to raise the floor for all the actors. It would provide potential opportunity to align with national priorities and commitments, while facilitating joint action towards addressing the real ground issues and related sustainability challenges.

We whole heartedly compliment the stakeholders for their imperative efforts and worthy contributions in the development of 'Indian Standards for Sustainable Soy (ISSS)', which has resulted into a robust framework for sustainable development and future growth of Soy sector in the country.

Overall, the innovative approach promoted through ISSS, would facilitate better implementation of sustainable agricultural practices, increase supply chain efficiency, combat poverty, maintain ecosystem services, biodiversity and ensure long-term supply of commodities to domestic as well as global markets. This would develop markets for socially and environmentally responsible sustainable soy products.

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October 16th 2020

Foreword

Soybean production in India has come a long way since its introduction in the 1970ies. It is presently the main oilseed crop of the country and contributes 34 and 23% to total oilseed and oil production of India, respectively. India spends a whopping sum of Rs 75000 on the import of edible oils. There is an urgent need to increase the productivity of the crop to reduce the loss to the exchequer. High yielding soybean varieties, identified through All India Coordinated Programme, when planted with advanced management practices, realise the potential yield level of up to 2-5 t/ha (depending on zones) in experiment plots and up to 1.7 Kg / ha in Frontline Demonstrations. However, the average soybean productivity in India has been staggering at 1 t/ha. Being a crop introduced from the temperate growing areas with evenly distributed rainfall pattern, Indian sub-tropical rain fed growing conditions pose challenge in realization of the inherent yield potential of the crop. Gap in adoption of technological interventions is the main reason for dissemination of all the developed technologies is required. It is a pleasure to find that The Soybean Processors Association of India (SOPA) in collaboration with SOLIDARIDAD and with technical inputs from ICAR-IISR has developed "Indian Standards for Sustainable Soy" for bringing all the information at a place.

I appreciate and congratulate one and all involved in the preparation of the document and hope that it will be of immense use to the farmers through not only the private partners but also the state agencies.

16/10/2020

(Nita Khandekar)

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Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation & Farmers Welfare

FORWARD

I am happy to know that The Soybean Processors Association of India (SOPA) is bringing out a document, "Indian Standards for Sustainable Soy" for sustainable production, trade, management and transforming Soya Sector in the country. The comprehensive standards have evolved through involvement of SOLIDARIDAD NETWROK and National Institute, Indian Institute of Soybean Research, Indore and other stakeholders.

Needless to mention that Soybean is the most important oilseed crop of the country. As per 4th estimate, Soybean was cultivated in 11.33 million hectares producing 13.79 million tonnes with a productivity of 1217 kg/ha during 2019-20. Area covered under Soybean was about 2/3rd of area under kharif oilseeds and half of area under total edible oilseeds. During last 50 years, area under Groundnut, Sesame, Safflower and Nigerwasat CAGR of 0.80, 0.96, 4.94 and 1.29%, respectively But Soybean achieved positive compound annual growth rate in area (12.61%) and production (14.51%).

The Government is giving major emphasis on oilseeds crops in general and Soybean in particular considering its contribution in area and production of Oilseeds. Ahigher production target has been fixed for Soybeanfor the coming years. Major emphasis will be on increasing productivity through increased seed replacement rate, adoption of soil and water conservation techniques, nutrient and disease management.

SOPA has been in the forefront of promoting Soybean production since its inception in 1979. The Indian Standards for Sustainable Soy is a timely intervention for making Soybean production profitable, sustainable and competitive in the world market. I congratulate the team of SOPA, SOLIDARIDAD and ICAR-IISS for this brilliant exercise. It is hoped that the document will prove very handy and useful to farmers, state agencies and researchers in increasing quality Soybean production,enhancing the competitiveness of domestic Soya Sector and ultimately lead to AATAMNIRBHAR BHARAT.

Shubha Thakur

(Shubha Thakur)

SOPA ISSS Council

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Executive Summary

Soybean {Glycine max (L) Merrill} is fastest expanding crop worldwide. The production of soybean has become double since 1995. Soy is a key part of global food supply. It is the most important seed legumes contributing nearly 25 per cent to the global edible oil. Globally, soybean occupies the fourth position among crops in terms of the amount of agricultural land destined to produce it. Overall, the commercialization of soybeans and their by-products accounts for more than 10% of the total value of global agricultural trade.

The crop is playing an important role in providing nutritious food to ever-growing global population on account of a rich source (40 %) of quality protein and good quality of oil (20%). Soybean is a viable source of ever-increasing global protein demand. It produces more protein per hectare than any other major crop and has a higher percentage of protein than many animal products.

Soy has an important role to play in feeding a growing global population. Among oilseeds, soy covers a leading role at the global scale. The sector provides an important contribution to food security, employment and trade balance of many countries. The crop has also revolutionised the agriculture and economy of soybean growing countries on account of its unbeatable potential for food, feed and numerous industrial uses.

The burgeoning global population, increased per capita intake of edible oil and increased demand for meat will eventually increase the demand of this crop in future. Consistently growing demand of soybean calls for cautiously addressing the socio-economic and environmental sustainability issues in the sector, so that the soy production and trade can be achieved in a sustainable manner.

In view of this, it is important that the socio-economic and environmental sustainability issues of soy industry are to be addressed amicably. It is inevitable for the stakeholders (farmers, businesses, government and civil societies) of soy sector to harmonise their efforts. Each of the stakeholders will have to work for sustainable soy-value chain, both for sustainable livelihood of farmers, food and nutritional security, quality environment and biodiversity conservation.

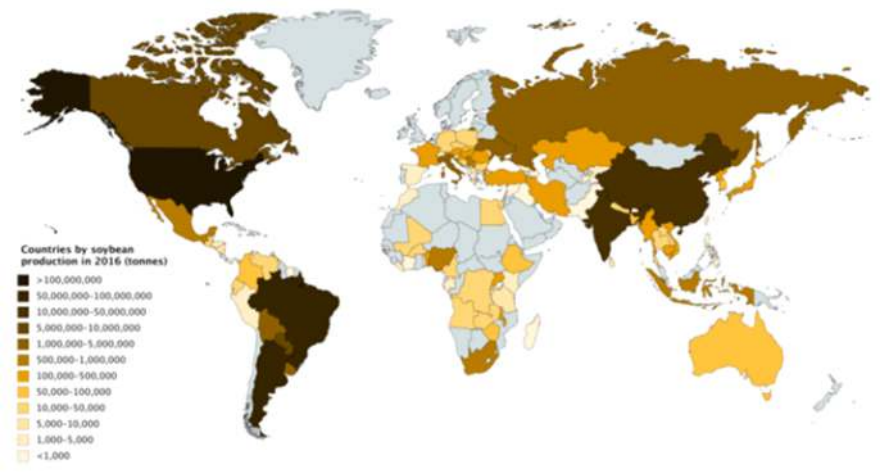
In the above background, The Soybean Processors Association of India (SOPA) is developing “Indian Standards for Sustainable Soy” which can be instrumental in transforming the domestic soy sector. The standards would provide India's own sustainability benchmark for sustainable soy production and trade. Implementation of such a national sustainability standard would provide potential opportunity to align with national priorities and commitments, while facilitating joint actions towards addressing the real ground issues and related sustainability challenges.

The standard is designed on the basis of industry realities and local conditions. It is aligned with similar other national and international standards as well as existing national and international legislations and regulatory mechanism to promote sustainable production and trade. The implementation of standards would enhance the competitiveness of domestic soy industries while stimulating the continuous improvement. This would also help and facilitate in achieving compliance with national regulations and sustainability standards in a step-by-step manner.

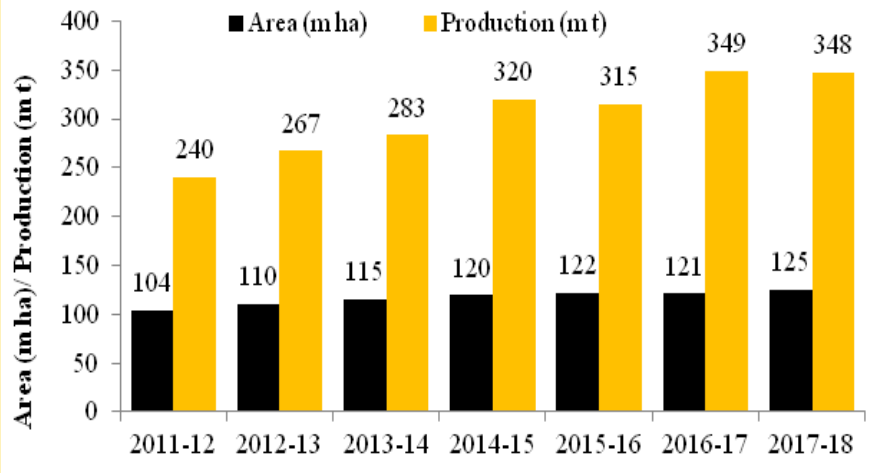
Global Scenario

The five major soy producer countries i.e. USA, Brazil, Argentina, China and India account for 90% of the world's soy production. The top exporters of soybean, meal and oil are Brazil, the USA, Argentina and Paraguay. Together these four countries accounted for around 91% of globally traded soy products in 2017. Among these countries, the USA, Brazil and Argentina have major area in genetically modified varieties. However, India and China are maintaining non-GM status. China is major importer (87 million tons in 2018-19) and consumer of soybean, and was importing soybean largely from USA in the past. However, on account of trade war with USA, most of the soybean is now being imported by China from Latin American countries (Brazil and Argentina). The area under soy cultivation has grown from less than 30 million ha in 1970 to over 125 million ha in 2017-18 (FAO). Global soy production has shown continuous growth during the last 10 years, from a total of 212 million tonnes in 2008/09 to 348 million tonnes in 2017-18.

Countries by Soybean Production Source: FAO



Global Soybean Area and Production Source: FAOSTAT 2017/AMIS-FAO



Indian Soy Sector

Soybean was known as food plant by India since ages and commercial cultivation of the crop was promoted by the Government of India with a view to offset the expenditure involved in import of edible oil from other countries. In 1970, the area under the crop was merely 30,000 ha with productivity of 426 kg per ha. Since then, the growth of the crop speeded up with a rapid rate. At present, it has acquired fourth place in area coverage and fifth in production in the globe.

The soybean crop is maintaining premier position among nine field oilseeds in India for the past few years. The major area under soybean is concentrated in Central India, covering states of Madhya Pradesh, Maharashtra and Rajasthan. The other peripheral states Telangana, Karnataka and Chhattisgarh follow the suit.

India has exhibited faster industrial growth (extraction plants) than the growth of crop since the commercial cultivation started in 1970. Soybean has played a significant role in national edible oil economy of India. Soybean cultivation has brought perceptible change in socio-economic status of soybean growers in India. It contributes around 25 per cent edible oil to the total oil produced in the country. The major crops contributing to oil kitty of India are rapeseed/mustard, followed by soybean and groundnut. However, the edible oil production through primary and secondary oilseed crops in India falls short of its domestic requirement on account of its increasing population and increasing per capita consumption (19.30 kg/year in 1917-18) as against ICMR recommendation of 10.95 kg per year. The situation compelled India to import edible oils. The resultant soymeal export earning has been off-setting the import bill of the Country to some extent, but in the past few years, the soymeal exports from the country have declined sharply. Enabling policies are needed in order to give a boost to soymeal export.

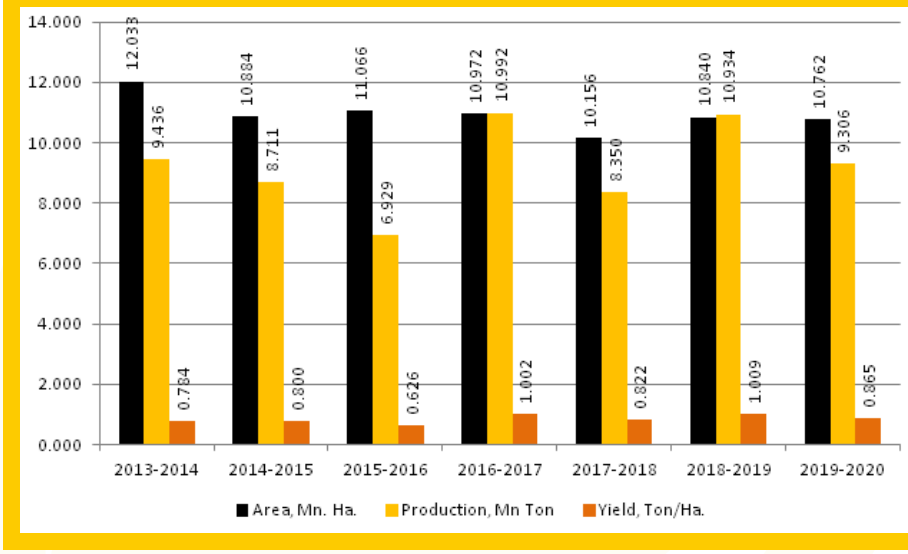
Indian Soy Industry at a Glance

Area under cultivation (Kharif 2020)	:	11.73 Million Ha.
Farmers growing soybean	:	5.5 Million
Production of Soybean	:	11.5 Million Tons
Solvent Extraction Units	:	225 +
Refineries	:	500 +
Employment	:	1.2 Million
Industry Turnover	:	Rs. 40,000 Crores
Export Earning (2012-13)	:	Rs. 15,450 Crores +

In India, around 5.5 million farm families are engaged in cultivation of soybean in total area of about 11 million hectares. Soybean is cultivated predominantly in the rainfed ecosystem with low and erratic rainfall and under input starved conditions coupled with poor crop management resulting in low yield realization and thus, low income from the crop.

The chances of area expansion are very limited and hence only the productivity enhancement can increase the total production of oilseeds and the per unit revenue from the crop enterprises. There exists a realisable yield gap. The graph below shows that the average productivity of soybean in previous eight years is around 0.8 tons per hectare, while the potential yield is around 2.5 to 3 tons per hectare. Bridging the yield gap will enhance domestic availability of edible oil through higher production of soybean and enhance the income of farmers. Higher adoption of improved crop management practices is inevitable for increasing productivity and profitability from the crop enterprise. Therefore, increasing productivity is one of the key sustainability issues which needs to be addressed adequately.

Soybean Area, Production and Yield Source: SOPA



In addition, there are several interlinked sustainability issues i.e. smallholders' livelihood security, climate change related risks, soil degradation, water related issues, poor availability of / access to quality inputs/seeds and market linkages etc.

In this context, there is need to improve production efficiencies and reducing the social-environmental footprint of soy production. Through implementation of sustainable practices by farmers, production can indeed be intensified (more production per unit area) at reduced cultivation cost, whilst ensuing efficient use of natural resources and lowering the environmental footprint of agriculture. Agricultural intensification will have to be achieved by boosting land, water, nutrient and labour productivity, while at the same time, avoiding the environmental degradation caused in the past by wasteful use of resources and inputs.

Adoption of sustainable practices would enhance sustainability under social, economic and environmental aspects of production. This would enhance the sustainability performance of Indian soy industries while ensuring the long-term supply security. It is also expected that the

yield increase in India would potentially contribute towards less expansion in major soy producing countries. In addition, the environmental dimension needs to be addressed to minimize adverse impact of soy production on the environment. Promotion of environmentally friendly agricultural practices would ensure protection and conservation of natural resource base. Overall, such actions would directly or indirectly benefit whole soy industry.

The Soybean Processors Association of India (SOPA) leading the way towards sustainable soy in India

The Spybean Processors Association of India, (SOPA) has been actively engaged since last four decades, with the objectives of overall development and growth of soy industry in the country. The Association is facilitating actions towards improving production and productivity as well as trade of soybean.

India being one of the major soy producers among top five countries and considering the global concerns for sustainability, SOPA is facilitating the process of developing Indian Standards for Sustainable Soy. The objective of developing such standards is to provide India's own sustainability benchmark for sustainable soy production and trade. The standards would be developed by the Indian industries and for the Indian industries through many rounds of consultations. Solidaridad, with many decades of experience in global standard setting and standard implementations has been engaged in the process of standard development and further promotion.

Indian Standards for Sustainable Soy

According to International Trade Centre, more than 40 standard mechanisms are available globally and are being used to verify responsible production and sourcing of soy. Since these mechanisms are developed keeping in view variable situations, it is difficult to adopt them for specific conditions prevailing elsewhere. At present, India does not have any such standards framed which are based on local conditions. This necessitates developing a standard which can provide sustainability to domestic soy sector.

The National Standards provide:

- Cost effectiveness
- Adapted to local conditions, requirements, laws and legislations
- Enhance international competitiveness of Indian Industries
- Aligned with Government's priorities, policies and agenda
- Aligned with global sustainability and similar other requirements

The Indian Standards for Sustainable Soy :

- A conceptual structure has been prepared, intended to serve as a support and guiding document for Sustainable Soy

- Provides India's own sustainability benchmark to the Indian Soy industry for sustainable production and trade
- Support Indian businesses to communicate their sustainability strategy benchmarked against Indian sustainable soy standards
- Standard is based on 4 important pillars that are
  I. economically viable
  ii. socially acceptable
  iii. environmentally compatible
  iv. technologically appropriate and is aligned with national legislation and regulatory requirements

Implementation of such national standards would potentially address ground issues and related sustainability challenges; and help the local governments and local industry/stakeholders to participate in a sustainability discourse more actively. This would potentially contribute towards sustainable and inclusive economic growth, greater market access, ecosystem conservation, employment creation, improved livelihoods and enhancing sustainable image of soy industries.

Key Principles of "Indian Standards for Sustainable Soy"

The standard encompasses legal, economically viable, environment friendly and socially beneficial practices and management for sustainable soy production and trade. It comprises of Principles, Criteria and accompanying Indicators and Guidance. It defines Indicators and Guidance for each criterion. Each Indicator has a specific objective, evidence that shall be in place to demonstrate/verify that the criteria is being met. Guidance consists of helpful information to assist farmers/industry/auditors to understand what the Criteria/Indicators mean in practice, to indicate good practices and practices that should be followed. Specific guidance has also been included for certain Indicators for clarity.

Principal 1. Sustainable Crop Production Practices (SCPs)
Criteria – 9 Indicators - 28

Principal 2. Comply with the Law
Criteria – 3 Indicators – 7

Principal 3. Community protection and dignified farm workers promotion
Criteria – 4 Indicators - 19

Principal 4. Conservation and restoration
Criteria – 4 Indicators – 15

Principal 5. Good business practices
Criteria – 4 Indicators – 9

Principal 6. Continuous improvement and transparency
Criteria – 3 Indicators - 7

Principals, Criteria and Indicators of "Indian Sustainable Soy Framework"

Principal 1. Sustainable Crop Production Practices (SCPs)

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1. SCPs implementation plan is documented & implementation is recorded; SCPs plan aims to optimize productivity, efficiency, positive impacts and resilience	Indicator 1. The documented SCPs plan	• The management should draw a documented SCPs plan to optimize yield, efficiency, positive impacts and resilience	• Documented SCPs • Documented SCPs implementation plan
	Indicator 2. Record current average yields, set a target yield per hectare and document the progress in productivity enhancement	• Farmers to maintain verifiable records	• Farmer diary, to be maintained by each farmer • SCPs adoption rates and yield improvement records
Criteria 2. Soil and Nutrient Management	Indicator 1. Techniques and practices to maintain soil physico -chemical and biological quality to be documented, demonstrated and implementation assured.	• Farmers are trained on integrated approach to soil health and nutrient management • Farmers adopt soil health and nutrient management practices • Ensure regular incorporation of organic sources/residues in soil and use of bio-agents/bio-fertilizers to reduce chemical use	• Record of trainings • Records of adoption of practices/techniques

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Practices of improved soil moisture management	• Farmer adopts practices of improved soil moisture i.e. BBF/RBF Sowing method, vermicomposting and mulching etc.	• Records of improved soil moisture management practices implemented and monitored
	Indicator 3. Measures/ techniques to control soil and water erosion to be documented, implemented and monitored.	• Farmers to be perused to use techniques like planting against slope, surface water collection, deep ploughing, mulching, bunding and erecting wind barriers to avoid soil and water erosion • Assessment of soil to measure and monitor erosion	• Records of implemented soil erosion control practices • Present soil health map; to be reviewed every 3-5 years • Records of monitoring
	Indicator 4. Monitoring of soil parameters like pH, conductivity and organic carbon to be in place.	• Undertake soil assessment in order to determine and record soil health (nutrient contents, pH, electrical conductance and organic carbon content etc.) and recommended remedial actions	• Soil test reports • Recorded remedial actions
	Indicator 5. Nutrient Management Plan	• Documented Nutrient Management plan is prepared and implemented by farmers • Fertilizers for nutrient managements to be used as per recommendation • Storage and handling of fertilizers in safe and secure manner in order to prevent exposure and risk to people and environment	• Documented Nutrient Management plan • Records of implementation of nutrient management plan • Record kept on use of bio-agents/bio-fertilizers.

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 3. Use of quality seeds	Indicator 1. Farmers to plant quality seed of soybean varieties which are resistant to pests and diseases of their locality.	• Awareness among farmers about available improved soybean varieties and their traits. • Ensure that farmer plants the variety(ies) suited to local climatic requirement. • The variety(ies) used by the farmers should have complete details on handling and seed viability.	• Record of varietal performance • The record of denomination of varieties with specific traits should be available with farmers.
	Indicator 2. Ensure the quality seeds of improved varieties as per agro-climatic requirement of the locality. Indicator 3. Record of traits of soybean varieties with respect to performance potential and resistance/toleranc e against biotic and abiotic stresses.		
Criteria 4. Water management	Indicator 1. Documentation of scientific measures to enhance water use efficiency and conservation of surface and ground water be available and implementation of these measures by Farmers is to be ensured.	• Farmers should be supplied with the document on water conservation and use and the implementation to be ensured and periodically monitored.	• Records of training material on efficient water use • Records of implementation of water use efficiency practices, in case of irrigation

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Monitoring of ground or surface water is organized to assess the localized contamination	• Cluster level assessment/ monitoring should be organized once in every 3 years	• Records of assessment/ monitoring
	Indicator 3. The risk of contamination physically, chemically and microbiologically to be ascertained in use of irrigation water	• The identified risks are to be documented	• Documentation of risks
	Indicator 4. Practices are implemented to address the identified risks and minimize negative impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources.	• The implemented practices to be recorded to minimize negative impacts on surface and ground water quality from chemical residues, fertilizers, erosion or other sources	• Records of practices implemented
	Indicator 5. Practices are implemented for ground water recharge i.e. rain water harvesting and other practices	• Ground water recharge practices are to be promoted and adopted by farmers • Appropriate assessment and monitoring at cluster level to be organized once in every 3 years period	• Records of practices adopted for ground water recharge • Records of assessment and monitoring

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 5. Maintenance and restoration of existing natural vegetation along with watercourses	Indicator 1. Record of existing water courses and associated perennial vegetation to be kept as base information and possible measures to maintain/ restore/enhance to be documented, implemented and monitored.	• Practices to ensure maintenance /restore/ enhance natural vegetation along with existing watercourses • Wherever the natural vegetation has vanished, a plan to restore it to be developed and implemented to ensure that at least 30 % of it is restored in next 5 years	• Existence of a plan to ensure that native vegetation is maintained/ restored/ enhanced.
		• The size of riparian strip should be double the width of the perennial stream. • Note: This will be implemented in coordination with local stakeholders	
Criteria 6. Integrated Pest Management	Indicator 1. A document on prevailing insect-pests, diseases and weeds along with natural predators and parasites to be kept to implement sound Integrated Pest Management measures. An eye on invading alien pest to be kept and recorded.	• Document on Integrated Pest Management to be provided to Farmers • Farmers to be educated on development of resistance on repeated use/misuse of same chemical and should be on use of need based chemicals at appropriate dose, right time and at right dilution. • A list of banned phytosanitary pesticides nationally or internationally to be provided to farmers and monitored that these are not used. • Reducing adverse impact to people and the environment	• Farmers should keep documented record on insect-pest, diseases and weeds along with natural predators • Documented Integrated Pest Management guidance • Pesticides and also on agro-chemicals used with invoices. • There has to be a plan/ practices to reduce the use of phytosanitary products with passage of time.

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Bio-control agents are in use to reduce the impact of agro-chemicals within the scope of national and international laws.	• A list of bio-control agents (registered and licensed as per law) should be made available to farmers. • Awareness to be created among farmers on the advantages of the use of bio-agents and plant products.	• To assess the adverse impact of agro-chemicals, a record of used bio-control agents/plant products is to be kept by Farmers. • A list of bio-control agents/plant products registered and licensed by the law should be available at ICS
	Indicator 3. Awareness and adoption of appropriate personal protective equipment	• Awareness on use of appropriate personal protective equipment	• Records of awareness and adoption of appropriate personal protective equipment
	Indicator 4. Acceptance and extent of adoption of IPM technologies such as Pheromone traps, proper seed rate, use of microbial agents, use of only label claimed chemical pesticides.	• Awareness on importance and use of pheromone traps (monitoring and mass trapping tools), microbial pesticides etc.	• Record of purchase of Agri-inputs especially the bio-control inputs

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 7. Records of application of agro-chemicals and it's handling, storage, collection and disposal of waste is monitored	Indicator 1.Agro-chemicals to contain pest/ disease/weeds in soybean crop are to be used in accordance with national or local regulations. Indicator 2. Agro-chemicals to be used are to be kept safe (away from the reach of children) to avoid any accidents. Indicator 3. The workers using agro-chemicals should be trained and provided with safety apparels while spraying.	• Farmers should understand the rules governing the use of plant protection products by national or local regulations. • Farmers/workers should be given basic training with respect to health requirements for various farm operations including use of agro-chemicals • Farmers should adhere to safe storage, use and disposal of left-over chemicals and containers as recommended. • The protective measures related to workers safety in use of pesticide to be provided by the producers; • Records of agro-chemicals used in the crop to be kept	• Records of (i) chemical products purchased and applied to crop, safety measures (PPE) taken by persons during application of chemicals, safe storage and disposal of pesticide/leftover chemicals and containers is to be kept.
	Indicator 4. The used containers/ packages should be appropriately disposed-off as per recommendation.		
Criteria 8. Agro-chemicals banned by national legislation or international organization are not to be used	Indicator 1. The products banned by national laws, WHO and Stockholm & Rotterdam Conventions are not to be used. Indicator 2. The information on banned agro-chemicals to be updated on regular basis.	• No use of agro-chemicals banned by national legislation or international organization • Farmers must be given the list of banned chemicals for their awareness and implementation.	• A list of banned agro-chemicals • Updated list of banned chemicals

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 9. A documented road map for reduce, reuse and recycle	Indicator 1. Recycle the farm waste to prepare manure. Indicator 2. Education, motivation & monitoring farmers to prepare vermi-compost, compost & FYM. Indicator 3. Regular incorporation of organic resources & crop residues in the field.	• Conversion of farm waste into good manureTraining to Farmers for vermi-composting/composting/ FYM preparation • Avoiding burning of crop residues in the field	• Record of compost / vermicompost produced and incorporated in the soil to be kept by the producer • Record of reduction of synthetic nutrient carriers to be kept by the producers

Principal 2. Comply with the Law

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1. Knowledge of and agreement with the national and international laws/legislation	Indicator 1. All the action taken to be in line with the local, state, national & international laws/ legislations. Indicator 2. A legal requirement register should enlist all the relevant laws to abide with & details of laws should be readily available. Indicator 3. The legal register should be regularly updated with addition/ deletion/change in laws. Indicator 4. The responsibility of ensuring the compliance of effective & updated laws lies exclusively on Management.	• Listing of applicable laws with references and links has been presented in Annexure I for compliance. • Farmers/farmer groups/other stakeholders are to keep list of applicable laws. • Management to designate a responsible officer to keep an eye on amendment of existing applicable laws and will ensure compliance of the stakeholders.	• Following documents should be ensured • Legal requirement registers • System to track changes and amendments in laws • Records of legal documents/proces ses followed • Site inspection for monitoring compliances with the applicable laws

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 2. Legal land use rights are defined and demonstrable	Indicator 1. The legal documents for land ownership/lease/ land use should be available	• Either of following land documents needs to be available at producer level • A) Bhu-Adhikaar Patra and Rin Pustika (Land Ownership Document and Loan booklet) Or, • B) Form B-1, Form 7-11 etc. (release on yearly basis) Or,	• Legal land documents should be available at producer's level as evidence of land ownership. • The management should verify the land ownership document
	Indicator 2. Wherever possible, legal perimeter boundary markers should be demarcated and visibly maintained on the ground.	• C) Electronic print out from website (State Govt.-Revenue Department) like www.mpbhuabhilekh.nic.in for Madhya Pradesh • Similar state Govt. websites of soy growing provinces are: • For Maharashtra: • http://164.100.111.5:8080/ mahabhulekh/ • For Andhra Pradesh: http://apland.ap.nic.in • For Rajasthan: • http://india.gov.in/landrecords/rj/rjlandrecords.php • For Karnataka: • www.bhoomi.karnataka.gov.in • If the land is in parent/ spouse's name and the legal heirs are the current farmers; then they need to procure an undertaking from parent/ spouse to establish the current land use/cultivation. The copy of the original document should be available with the current producer. • In case of share cropper the notarized agreement is acceptable legal document.	

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 3. Responsibility related to raw materials which are being sourced from local sources; in order to ensure compliance with applicable legal requirements/law	Indicator 1: Documented system in-place in order to ensure compliance with applicable legal requirements/ law related to raw materials which are being sourced locally	• Compliance with legal requirement for sourcing/procurement of raw material (soy) • Note: Applicable to industry	• Records related to compliance with applicable legal laws for sourcing from local sources or import

Principal 3. Community protection and dignified farm workers promotion

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1. Appraisal of social situation and addressing of conflict of interest	Indicator 1. A foolproof documented monitoring system to address the complaints and grievances to be in place.	• Resolving complaints/ grievances as per documented system. • Appropriate measures to be in place to give wide publicity to complaints/grievances. • Appropriate means to be used to resolve complaints/grievances. • Ensure the minimum wages to meet the basic needs of workers as per national legislation without any gender discrimination. • The complaints/ grievances depending on their seriousness to be addressed amicably in reasonable time limit by farmers/processors. • In cases where written contract is not binding, the producer has to keep a record of workers/ temporary workers. • Ensure no discrimination based on gender, caste, colour, religion, region, social or any other characteristic.	• A report on social risk assessment • Records of workers/ temporary workers and payment of wages • Regular site visit to assess awareness among the local community on redressal system on complaints and grievances system. • Documented proof of complaints and grievances. • Action plan to address/ resolve the complaints and grievances with in time-frame.

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Engagement of child labour as per national labour laws; No forced labour; No discrimination and harassment of workers	• On family farms, children under 15 years of age may carry out light productive activities during the peak season, do not work over 14 hours per week and this does not interfere with their schooling.	• Age verification of workers through NREGA Job card, PDS/Ration Card, School leaving certificate, voter ID • Documented records of workers employed to be kept by producer/ processor
		• The workers to be engaged for overtime work as per norms and accordingly wages to be paid. The workers should be put for overtime work after willful consent. • Normal daily working hours not to exceed 8 hours excluding lunch/rest hours. • The complaints/ grievances of workers are to be addressed/resolved according to their seriousness within a time frame	
	Indicator 3. Ensure minimum wages to workers as per national legislation	• If workers are paid as per result, a normal 8 hours working day allows workers (men and women), to earn at least the state (province) level minimum wage to agriculture sector (http://paycheck.in/main/officialminimumwages/madhya-pradesh). • To ensure wages revisions as per circulars issued by the State/Central Government.	• Documented records of wages paid at producer's/ processor's level

Criteria	Indicator	Guidelines	Supporting Documents
		• Indicator 4.The workers to be facilitated with sanitary and good drinking water facilities	• Management should ensure that producers/ processors provide sanitary and good drinking water facilities at work place.
	Indicator 5. A written contract in a language understood by workers (including temporary workers), if necessary, to be in place as per national laws.	• As per Indian law, those farmers who employs 20 or more than 20 workers (including temporary workers) are required to have a written contract, as per THE CONTRACT LABOUR (REGULATION AND ABOLITION) ACT, 1970 (ACT NO. 37 OF 1970) (Annexure II)	• Farmers/processor s to be made aware of the law.
Criteria 2. air labour conditions, safety and health	Indicator 1. Provisions under "Occupational Safety and Health Act of India" to be implemented in true spirit.	• All the provision under the said Act to be implemented. • A manual of the provision under the act to be in place.	• Records of accidents and emergency response procedures/ reports and it should be reviewed quarterly; • Warning signs- assessed risks; • Evidence of qualification of person in-charge of safety and health;

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Assessment and documentation of the safety and health risks for employees, workers and small holders	• Provisions under the said Act to be brought to the knowledge of workers by organizing training programmes.	
	Indicator 3. Framing standard operating procedures for occupational safety and health and organizing awareness training programmes. Preparations of precautionary manuals for activities involved in crop culture.	• Organization of awareness training programmes involving proper use of handy agricultural implements and safe use of agro-chemicals with protective equipments.	
	Indicator 4. Risks and hazards while working to be identified and matching protective equipment to be available on work place	• Work place should be equipped with all the protective equipments/ apparels as safety measures against risk to workers/small holders.	
	Indicator 5. The procedures dealing with accidents and emergency should be in place and the farmers/ processors to be made aware	• In the event of any accident at farm or processing unit, it should be documented. • All the emergency points should have the relevant safety instructions;	

Criteria	Indicator	Guidelines	Supporting Documents
	of these. All the incidences of accident are to be recorded and reviewed intermittently	• Availability of and/ or access to the First-Aid-Kit /initial medical help at village/ processors level needs to be ensured. • All workers shall be provided with medical care and accident insurance; • Monitoring of safety measures and related issues should vest with an officer with awareness on national and international laws. • The small holders/ processor should have dialogue with workers occasionally. • The management shall appoint qualified responsible person (s) for workers' and Farmers' safety and health.	
	Indicator 6. To ensure workers' safety, a person well versed with national and international legislation should be made responsible		
	Indicator 7. Occasional dialogue on safety, health and welfare issues with the workers/ smallholders to be arranged and details thereof be recorded		
Criteria 3. Issues related to improved employment conditions and capacity building to be considered	Indicator 1. The established policy should adhere to good social conditions based on human rights	• ILO Forced Labour Convention No 29 Abolition of forced labour convention No 105, Equal remuneration convention No. 100 Discrimination (Employment Occupation) Convention No. 111	• Employment contract of employees and workers.
	Indicator 2. Workers policy should be non-discriminatory imbedded with	• Any type of of sexual harassment and violence at workplace to workers be handled carefully by the small-holders/processor and	• Authenticated policy on good social practices, employment, labour & sexual harassment policy.

Criteria	Indicator	Guidelines	Supporting Documents
	equal opportunities regardless of race, caste, colour, region, religion, origin, nationality or any other aspect. The policy should take care of gender issues. All the workers & Farmers should be made aware of it.	• action to be taken with recording of details.. • Workers should be made aware of social benefits and welfare issues by small holders and processors; and • Regular training programmes on capacity building of the workers/employees to be organized by the Processors/ smallholders.	• Guidelines on prevention of sexual harassment at the workplace. • Policy for equal opportunity and non-discrimination and rights of women. • Records of compliance with minimum age for employment. • Records of compliance with minimum wage policy. • Display of working hours at the notice board. • Records of social and welfare activities. • Records of complaints and action taken. • Training need analysis. • Records of training programmes such as attendance, trainers details, appropriateness of training, and also on-site assessment
	Indicator 3. Maintenance of primary records and fair contracts with all employees including seasonal workers.		
	Indicator 4. Transparency to be kept in respect of working hours/ overtime/wages & these should have mutual agreement.		
	Indicator 5. Documentation should be there on social benefits & welfare of the workers/employees		
	Indicator 6. The work place should be without any form of sexual harassment & violence .		

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 4. Coercive disciplinary or control methods not to be resorted to.	Indicator 1. The decency in workers management is observed	• Management should ensure that the producers processor should not abuse, harass & resort to any violence with workers.	

Principal 4. Conservation and restoration

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1. A management plan for natural resource management	Indicator 1. Natural resources and environment policy should be in place in the framework of relevant country & environmental provisions und laws.	• A documented plan should be available on maintenance, restoration and enhancing the natural resources and environment.	• Document of authenticated improvement policy and plans. • Written mechanism to assess risks and possible impacts. • Monitoring statements on key risk areas & impacts.
	Indicator 2. The established natural resources & environmental management plan document should encompass policy/objectives, assessment of relevant risks & possible impacts analysis of all operations;		
	Indicator 3. Plans to manage risks & possible impact including details of its implementation & monitoring keeping continuous improvement in mind.		

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 4. To have comprehensive understanding of the policy and set objective therein, organization of awareness and capacity building programmes		
Criteria 2. Efficient utilization of energy and renewable resourced	Indicator 1. For efficient and optimum utilization of non-renewable energy, initial values and further trends need to be monitored and assessment to be done to improve the usage in terms of fossil fuel, electricity and energy efficiency in time frame.	• Appropriate planning, implementation and monitoring is to done to establish the reduction in pollution of natural resources. • Records of non-renewable energy use are to be maintained and a plan to minimize it has to be documented. It should be periodically monitored to establish the improvement. (records from base year and minimum 3 years baseline value); • Smallholders/processors to ensure the progressive increase in use of renewable energy resources with time	
	Indicator 2. Volume of fossil fuel per ha to be worked out and measures to reduce to be thought of, otherwise to be justified.		• Maintenance of records and monitoring on consumption of non-renewable energy with baseline values to be observed for at-least 3-5 years;

Criteria	Indicator	Guidelines	Supporting Documents
			• Annual budget for fuel, electricity etc. compared against the actual usage. • Records of application of techniques/ technologies using renewable energy like use of biodiesel/solar energy etc.
	Indicator 3. Feasibility to be worked out to gradually reduce the non-renewable energy with renewable energy		
Criteria 3. Monitoring and containing of pollution and emissions of greenhouse gases (GNG)	Indicator 1. Appraisal of activities related to pollution and emission of GNG, solid waste products and effluents to avert risk of environment/soil /water courses	• Internal assessment records shall be accepted; • Promotion of incorporation of crop residues/manures in soil and shunning the practice of burning crop residues except fot sanitation or for generation of energy like charcoal production. • Monitoring of improvement of soil quality consequent upon the incorporation of crop residues/manure with time through indicators like soil organic carbon, improvement in water storage in soil, fertility levels and improvement in yield.	• Ensuring and documentation of adoption of good agricultural practices. • Documented procedures and management plans for identification of waste produce and its fruitful utilization.
	Indicator 2. Execution of prepared plan to reduce / minimize pollutants and emissions.		

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 3. No burning on any part of crop residues, waste, or as part of vegetation clearance, except under any one of the following conditions: a) Where there is a legal obligation to burn as a sanitary measure. b) Where it is used for generation of energy including charcoal production and for drying crops. c) Where only small-caliber residual vegetation from land clearing remains after all useable material has been removed for other uses.		• Availability of water management plans and reports of water quality sampling for incoming and outgoing sources, records of mulching, records of adoption of water conservation practices. • Riparian buffer zone management plan and its implementation
	Indicator 4. Full utilization of measures to increase carbon sequestration: restoration/ enhancement of native vegetation, regular incorporation of crop residues/manures in soil, growing crops which can sequester more carbon, & resorting to conservation tillage		

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 5. Documented water management plans to maintain/ improve quality and availability of ground water.		
Criteria 4. Efficient and responsible waste management	Indicator 1. Following the established waste management plan through documentation and monitoring	• Assessment and identification of waste products and their sources. • Safe disposal of used leftover pesticides and their containers. All used chemical containers used in production/processing must be triple rinsed, punctured and disposed-off as per prescribed procedure.	• List of identified waste products and their sources. • Record to utilization of waste/by-products to be kept and monitored periodically to establish the improvement. • Standard Operating Procedure of handling of used chemicals in accordance with regulation.
	Indicator 2. Classifying different waste products to convert them in useful products.		

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 3. Established Standard Operating Procedures for handling of used chemicals that are classified under the scheduled chemicals to be followed and their disposal should be as per the national legislation and regulations.		• Mulching for soil moisture conservation. • Evidence of zero burning of residues. • Sufficient distance of landfill form habitation and water contamination • Periodical reports on performances under the efficient and sustainable waste management

Principal 5. Good business practices for financial viability

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1. Plan with financial viability	Indicator 1. A long-term plan to establish financial viability business plan should be in place.	• The stakeholder should have a documented long-term economically and financially viable business plan; and • The stakeholder should implement, periodically monitor and keep all the relevant records on time scale on financial indicators like cost of raw material, oil extraction ratio, cost of extraction and profit accrued • Farmers should also maintain records of cost of cultivation inclusive of labor records as well as returns, with statements of profit & loss.	• Documented business plans with at-least 3 years of projection; • Documented process of review of business plans and performances/ review reports; and farmers' profit and loss statements.
	Indicator 2. Record keeping on efficient execution, monitoring and periodical review of the business/ management plan to monitor the achieved objectives. Close monitoring of		

Criteria	Indicator	Guidelines	Supporting Documents
	different trends in yield, costs, oil extraction rate, price forecasts and financial indicators.		• The business plan may contain: (I). Attention to quality of planting material (ii). yield trends/crop projections (iii). Price forecasts, (iv). Financial performance indicators
Criteria 2. Fair pricing	Indicator 1. Documented and transparent mechanism for fair pricing of soybeans;	• Documented fair pricing mechanism;	• Documented evidences for pricing mechanism
Criteria 3. Risk assessment and take proactive measures for dealing with problems in the supply chain	Indicator 1. A documented process for assessment of risks and plans for risk mitigation Indicator 2. Implementation of appropriate measures for dealing with identified risks		• Documented risk assessment process and mitigation plans • Records related to implementation of risk mitigation measures
Criteria 4. Procedures for ensuring quality, better transportation and storage	Indicator 1. Use of integrated approach for crop management so that agro-chemicals become last priority	• Training to producers on integrated crop management and associated benefits • Training to producers on care to be taken in storage and while transporting soybean, particularly seed • Awareness creation among farmers on harmful phytosanitary products	• Records to be kept by producers on harmful phytosanitary measures adopted in each season to assess their reduction in use over time •

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2 Implementation plan that contains targets for reduction of potentially harmful phytosanitary products with passage of time.	• Ensure sanitation in warehouse to store the produce.	• Records related to good storage and transportation practices
	Indicator 3. Prior to use of the produce, the store, walls, horizontal surfaces, handling and receiving facilities should be cleaned. The space should be pest and moisture free and ventilated. Indicator 4. Extra care in handling of soybean seed during storage and transportation to retain the seed viability		

Principal 6. Continuous improvement and transparency

Criteria	Indicator	Guidelines	Supporting Documents
Criteria 1 Continuous improvement: Monitor through action plan abiding by national laws/eegulations and following mid-term adjustments and utilizing the experience of small holders/ other stakeholders to achieve united solutions	Indicator 1. Action plan for the aspects of quality seed planting of improved varieties/adoption of SCPs, which have social and environmental impact should reflect continual improvement.	• Continual improvements action plans based on social, environmental impacts, which are reviewed and monitored annually. • Established system to assess the feasibility of new/improved practices/ technologies/information for adoption.	• Plans for social and environmental impact assessment and feasibility reports of new practices for required changes in current practices. • Action plan for ascertaining continual improvement with timeline.
	Indicator 2. Processors and ICS team should establish the system to align their practices with available and feasible new/improved practices/ technologies/information including action plan to provide required resources to implement improved practices.	• Training plans and programmes for relevant personnel involved in the implementation of new technologies; organization of demonstration plots • Stakeholders consultations regarding their social and environmental concerns and improvement plans; • Resource allocations for implementation.	• Monitoring mechanism to ensure the effectiveness of measures adopted for mitigation and based on this the plan and measures should be reviewed in every three years. • Records of training programmes and impact analysis. • Appropriately recorded list of stakeholders/ concerned.

Criteria	Indicator	Guidelines	Supporting Documents
			• Records of activities performed for facilitating adoption of improved practices and new technologies. • Stakeholders concerns and action taken on inputs received from stakeholders. • Records of results (yields, production cost, etc.)
Criteria 2. Transparency in terms of documents and information relevant to framework	Indicator 1. The management shall facilitate access to adequate information related to sustainable practices and social, environmental and legal issues to relevant stakeholders in language understandable by them	• Documentation of requests and responses	• Records of requests and release of information, communications, consultations and responses. • List of publicly available documents • Occupational health and safety plans • Continual improvement plans • Impact assessment plan relating to social and environmental impact

Criteria	Indicator	Guidelines	Supporting Documents
	Indicator 2. Relevant documents/information related to social and environmental impacts should be publically available unless it is prevented by commercial confidentiality.		• Public summary of internal audit report • Human Rights policy • Records of complaints and grievances
Criteria 3. Transparency in communication method	Indicator 1. Establishment of communication and consultation procedures with relevant stakeholders.	• Set-up the procedures for stakeholder communication and consultations.	• Documented procedure for consultation & communication. • Records of communication & consultations, requests & responses & list of stakeholders.
	Indicator 2. Management to nominate a responsible officer for issues related to communication & consultations with relevant stakeholders. Indicator 3. Proper documentation of records of consultations, stakeholders, communication & action taken from consultation.	• The responsible officer nominated by the management will be required to keep the records of consultations and communications with stakeholders and will keep all the stakeholders abreast with them. He will also record the action taken and outcome of the consultations	• Appointment letter of responsible person for framework activities and matters; Verified records for appropriateness and effectiveness of the action taken, follow-ups.

Applicable National Law, Regulations, Act and Conventions

Act/Law /International Conventions	Key Provisions	Summary
The minimum Wages Act, 1948 (Act No. XI of 1948) https://clc.gov.in/clc/sites/default/files/MinimumWagesact.pdf	Under Provision 12/13/14/18	• Minimum wages to be paid as fixed by the Central/State Government from time to time. • Number of working hours should not exceed 48 hours in a week with a weekly holiday. • The daily hours should not exceed more than 9 hours with 1-hour rest interval. • Provision of compensatory holiday/overtime wages if working on holiday. • Overtime rates will be twice of the normal wage rate. • Employer should maintain the register and records. (https://clc.gov.in/clc/sites/default/files/MinimumWagesact.pdf)*
Equal Remuneration Act, 1976 [Act 25 of 1976 amended by Act 49 of 1987]	Chapter I, II & III	An act to provide for the payment of equal remuneration to men and women workers and for the prevention of discrimination, on the ground of sex, against women in the matter of employment and for matters connected therewith or incidental thereto **Chapter II. Payment of remuneration at equal rates to men and women workers and other matters** • Duty of employer to pay equal remuneration to men and women workers for same work or work of similar nature. • No discrimination to be made while recruiting men and women workers. • Advisory Committee (for providing increasing employment opportunity for women) • Power of appropriate Government to appoint authorities for hearing and deciding claims and complaints. **Chapter III. Miscellaneous** • Duty of employers to maintain registers (in relation to workers employed). • Inspectors (to be appointed by the Government). • Penalties (to be imposed on the person(s) responsible to abide by provisions under the Act). • Offences by companies (Any officer(s) deemed to be guilty of not following provisions of the Act).

Act/Law /International Conventions	Key Provisions	Summary
		• Cognizance and trial of offences. • Power to make rules (Lies with Central Government). • Power of Central Government to give directions. • Act not to apply in certain special cases (special provisions for women as specified in the Act). • Power to make declaration (as per satisfaction of the Government on implementation of provisions under the Act. • Power to remove difficulties (power lies with the Central Government). • Repeal and saving (https://labour.gov.in/sites/default/files/equal_remuneration_act_1976_0.pdf)*
ILO C100 - Equal Remuneration Convention, 1951 (No. 100)	Article 1	(a) the term remuneration includes the ordinary, basic or minimum wage or salary and any additional emoluments whatsoever payable directly or indirectly, whether in cash or in kind, by the employer to the worker and arising out of the worker's employment; (b) the term equal remuneration for men and women workers for work of equal value refers to rates of remuneration established without discrimination based on sex. (https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C100)*
ILO C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	Article 1	For the purpose of this Convention the term discrimination includes – (a) any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation;

Act/Law /International Conventions	Key Provisions	Summary
		(b) such other distinction, exclusion or preference which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation as may be determined by the Member concerned after consultation with representative employers' and workers' organisations, where such exist, and with other appropriate bodies.
		• Any distinction, exclusion or preference in respect of a particular job based on the inherent requirements thereof shall not be deemed to be discrimination. • For the purpose of this Convention the terms employment and occupation include access to vocational training, access to employment and to particular occupations, and terms and conditions of employment. (https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C111)*
ILO C105 - Abolition of Forced Labour Convention, 1957 (No. 105)	Article 1	Each Member of the International Labour Organisation which ratifies this Convention undertakes to suppress and not to make use of any form of forced or compulsory labour – • as a means of political coercion or education or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social or economic system; • as a method of mobilising and using labour for purposes of economic development; • as a means of labour discipline; • as a punishment for having participated in strikes; • as a means of racial, social, national or religious discrimination. (https://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100_ILO_CODE:C105)*

Act/Law /International Conventions	Key Provisions	Summary
	Section 3 of the principal Act (subsituted)	The following section shall be substituted, namely:— • 3. (1) No child shall be employed or permitted to work in any occupation or process. (2) Nothing in sub-section (1) shall apply where the child, — (a) helps his family or family enterprise, which is other than any hazardous occupations or processes set forth in the Schedule, after his school hours or during vacations. (https://pencil.gov.in/THE%20CHILD%20LABOUR%20(PROHIBITION%20AND%20REGULATION)%20AMENDMENT%20ACT,%202016(1).pdf)*
ILO C005 - Minimum Age (Industry) Convention, 1919 (No. 5)	Article 2	• Children under the age of fourteen years shall not be employed or work in any public or private industrial undertaking, or in any branch thereof, other than an undertaking in which only members of the same family are employed. (http://ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:CON,en,C005,/Document#:~:text=Children%20under%20the%20age%2)*
The Bonded Labour System (Abolition) Act, 1976	Chapter II: Abolition of Bonded Labour System	• On the commencement of this Act, the bonded labour system shall stand abolished any every bonded labourer shall, on such commencement, stand freed and discharged from any obligation to render any bonded labour. • After the commencement of this Act, no person shall (a) Make any advance under, or in pursuance of, the bonded labour system, or (b) Compel any person to render any bonded labour or other form of forced labour. (https://www.indiacode.nic.in/bitstream/123456789/1491/1/197619.pdf)*

Act/Law /International Conventions	Key Provisions	Summary
The Insecticides Act, 1968; The Insecticides Rules, 1971- Protection from application of pesticides	Chapter VIII. Provisions regarding protective clothing, equipment, and other facilities for worders during manufacture, etc. Of insecticides	Item 38: First aid measures • In all cases of poisoning first-aid treatment shall always be given before the physician is called. The Indian Standard Guide for handling cases of insecticide poisoning-Part I First-Aid Measures [IS : 4015 (Par I)—1967] and Part II Symptoms, diagnosis and treatment [IS : 4015 (Par II)—1967] shall be consulted for such first-aid treatment in addition to any other books, on the subject. The workers also should be educated regarding the effects of poisoning and the first-aid treatment to be given. • Item 39: Protective clothing 1. Persons handling insecticides during its manufacture, formulation, transport, distribution or application, shall be adequately protected with appropriate clothing. 2. The protective clothing shall be used wherever necessary, in conjunction with respiratory devices as laid down in rule 40. 3. The protective clothing shall be made of materials, which prevent or resist the penetration of any form of insecticides formulations. The materials shall also be washable so that the toxic elements may be removed after each use. 4. A complete suit of protective clothing shall consist of the following dresses, namely: (a). Protective outer garment / overalls / hood / hat; (b). Rubber gloves or such other protective gloves extending half way up to the fore-arm, made of materials impermeable to liquids; (c). Dust-proof goggles; (d). Boots (e). Respiratory devices • Item 44: Disposal of used packages, surplus materials and washings of insecticides 1. It shall be the duty of manufacturers, formulators of insecticides and operators to dispose packages or surplus materials and washing in a safe manner so as to prevent environmental or water pollution. 2. The used packages shall not be left outside to prevent their re-use.

Act/Law /International Conventions	Key Provisions	Summary
		3 The packages shall be broken and buried away from habitation. (http://legislative.gov.in/sites/default/files/A1968-46.pdf and https://upload.indiacode.nic.in/showfile?actid=AC_CEN_23_31_00001_196846_1517807318487&type=rule&filename=Insecticides%20Rule,%201971.pdf)*
The Protection of Human Rights Act, 1993 [As amended by the Protection of Human Rights (Amendment) Act, 2006–No. 43 of 2006]		• Protection of human rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India. (http://ncwapps.nic.in/acts/TheProtectionofHumanRightsAct1993.pdf)*
ILO C011 - Right of Association (Agriculture) Convention, 1921 (No. 11)	Atricle 1	• Convention undertakes to secure to all those engaged in agriculture the same rights of association and combination as to industrial workers, and to repeal any statutory or other provisions restricting such rights in the case of those engaged in agriculture. (https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C011)*
The Environment Protection Act, 1986	Chapter III, Prevention, Control, and Abatement of Environmental Pollution; Item 7, 8 and 9	• No person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutants in excess of such standards as may be prescribed. • No person shall handle or cause to be handled any hazardous substance except in accordance with such procedure and after complying with such safeguards as may be prescribed. (1) Where the discharge of any environmental pollutant in excess of the prescribed standards occurs or is apprehended to occur due to any accident or other unforeseen act or event, the person responsible for such discharge and the person in charge of the place at which such

Act/Law /International Conventions	Key Provisions	Summary
		discharge occurs or is apprehended to occur shall be bound to prevent or mitigate the environmental pollution caused as a result of such discharge and shall also forthwith (a) intimate the fact of such occurrence or apprehension of such occurrence; and (b) be bound, if called upon, to render all assistance, to such authorities or agencies as may be prescribed. (2) On receipt of information with respect to the fact or apprehension of any occurrence of the nature referred to in sub-section (1), whether through intimation under that sub-section or otherwise, the authorities or agencies referred to in sub-section (1) shall, as early as practicable, cause such remedial measures to be taken as are necessary to prevent or mitigate the environmental pollution (3) The expenses, if any, incurred by any authority or agency with respect to the remedial measures referred to in sub-section (2), together with interest (at such reasonable rate as the Government may, by order, fix) from the date when a demand for the expenses is made until it is paid, may be recovered by such authority or agency from the person concerned as arrears of land revenue or of public demand (https://www.indiacode.nic.in/bitstream/123456789/13112/1/08_environment_protection_act_1986.pdf)
Water (Prevention and Control of Pollution) Act, 1974 amended 1988	Chapter V: Prevention and Control of Water Pollution	• Section 24: (1) Subject to the provisions of this section: 1. no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any [stream or well or sewer or on land]; or 2. no person shall knowingly cause or permit to enter into any stream any other matter which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of

Act/Law /International Conventions	Key Provisions	Summary
		the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences (https://tnpcb.gov.in/pdf_2019/WaterAct17519.pdf)*
The Air (Prevention and Control of Pollution)1 Act, 19812 (Act No. 14 of 1981)	Section 21: Consent from State Boards	• It is proposed to make it obligatory on the part of a person to obtain the consent of the relevant Board even while establishing an industrial plant. (https://www.indiacode.nic.in/bitstream/123456789/1389/1/a1981-14.pdf)*
Environment Impact Assessment Notification ,2006	Schedule: List of Project or activities requiring prior Environmental Clearance	• Requirement of environmental clearance before establishment /any industries or operation and process mentioned in the schedule (http://www.indiaenvironmentportal.org.in/content/265655/environmental-impact-assessment-notification-2006/)*
No Use of Banned Pesticides: Stockholm Convention on Persistent Organic Pollutants (POPs)- All the POPs pesticides are covered under the Insecticides Act 1968 and Rules 1971 of the Ministry of Agriculture, Government of India The Insecticides Act, 1968; The Insecticides Rules, 1971- Protection from application of pesticides	Annex A; B and C of Stockholm Convention; Annex III of the Rotterdam Convention Rules 1971; Article 18	• None of the of POP pesticides listed in of the Stockholm convention (http://chm.pops.int/TheConvention/ThePOPs/tabid/673/Default.aspx) are in use in India; Most of the POPs pesticides are banned for manufacture, use and import (some of the chemicals are Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Hexachlorobenze (HCB), Mirex, Toxaphene, DDT) • As of now, a total of 52 (including 3 severely hazardous pesticide formulations) chemicals are listed in Annex III of the Convention. Out of these, 35 are pesticides and 16 industrial chemicals, and 1 chemical in both the pesticide & the industrial chemical categories, which are subject to the Prior Informed Consent (PIC) procedures. • Storage of banned pesticide not allowed as per Insecticide act 1968 • (http://legislative.gov.in/sites/default/files/A1968-46.pdf and • https://upload.indiacode.nic.in/showfile?actid=AC_CEN_23_31_00001_196846_1517807318487&type=rule&filename=Insecticides%20Rule,%201971.pdf)*

Act/Law /International Conventions	Key Provisions	Summary
Forest (Conservation) Act, 1980 (With Amendments made in 1988) Forest (Conservation) Rules, 2003 (With Amendments made in 2004)	PART – C CHAPTER 1 Application of Forest (Conservation) Act, 1980	• The word "forest" must be understood according to its dictionary meaning. This description covers all statutorily recognized forests, whether designated as reserved, protected or otherwise for the purpose of Section 2(I) of the Forest Conservation Act. The term "forest land", occurring in Section 2, will not only include "forest" as understood in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership. This is how it has to be understood for the purpose of Section 2 of the Act. • The term "forest" shall not be applicable to the plantations raised on private lands, except notified private forests. However, felling of trees in these private plantations shall be governed by various State Acts and Rules. Felling of trees in notified private forests will be as the working plan/ management plant duly approved by Government of India. (https://mpforest.gov.in/img/files/Handbook_FC_Act_2019.pdf)*
The Wildlife (Protection) Act, 1972 (No. 53 of 1972) (9th September, 1972)	CHAPTER III Hunting of Wild Animals [(9 Prohibition of Hunting. –	• No person shall hunt any wild animal specified in Schedule, I, II, III and IV except as provided under section 11 and section 12.
	[1 Chapter-IIIA] Protection of Specified Plants 17A. Prohibition of picking, uprooting, etc., of specified plants.	• Save, as otherwise provided in this Chapter, no person shall – (a) will fully pick, uproot, damage destroy, acquire or collect any specified plant from any forest land and area specified, by notification, by the Central Government (b) possess, sell, other for sale, or transfer by way of gift or otherwise, or transport any specified plant, whether alive or dead, or part or derivative thereof: Provided that nothing in this section shall prevent a member of a scheduled tribe, subject to the provisions of Chapter IV, from picking,

Act/Law /International Conventions	Key Provisions	Summary
		collecting or possessing in the district he resides any specified plant or part or derivative thereof for his bonafide personal use. (https://www.strawindia.org/documents/The-Wildlife-Protection-Act-1972.pdf)*
Biological Diversity Act 2002	Chapter II. Regulation of Access to Biological Diversity	• 3. Certain persons not to undertake Biodiversity related activities without approval of National Biodiversity Authority. • 4. Results of research not to be transferred to certain persons without approval of National Biodiversity Authority. • Sections 3 and 4 not to apply to certain collaborative research projects. • Application for intellectual property rights not to be made without approval of National Biodiversity Authority. • Prior intimation to State Biodiversity Board for obtaining biological resource for certain purposes (https://www.indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf)*
Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	Chapter II Forest Rights; Chapter III Recognition, Restoration and Vesting of Forest Rights and Related Matters	• Chapter II. Forest rights of Forest dwelling Scheduled Tribes and other traditional forest dwellers. – (1) For the purposes of this Act, the following rights, which secure individual or community tenure or both, shall be the forest rights of forest dwelling Scheduled Tribes and other traditional forest dwellers on all forest lands. (a) right to hold and live in the forest land under the individual or common occupation for habitation or for self-cultivation for livelihood by a member or members of a forest dwelling Scheduled Tribe or other traditional forest dwellers; (b) community rights such as nistar, by whatever name called, including those used in erstwhile Princely States, Zamindari or such intermediary regimes;

Act/Law /International Conventions	Key Provisions	Summary
		(c) right of ownership, access to collect, use, and dispose of minor forest produce which has been traditionally collected within or outside village boundaries; (d) other community rights of uses or entitlements such as fish and other products of water bodies, grazing (both settled or transhumant) and traditional seasonal resource access of nomadic or pastoralist communities; (e) rights including community tenures of habitat and habitation for primitive tribal groups and pre-agricultural communities; (f) rights in or over disputed lands under any nomenclature in any State where claims are disputed; (g) rights for conversion of Pattas or leases or grants issued by any local authority or any State Government on forest lands to titles; (h) rights of settlement and conversion of all forest villages, old habitation, un-surveyed villages and other villages in forests, whether recorded, notified or not into revenue villages; (i) right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting & conserving for sustainable use; (j) rights which are recognised under any State law or laws of any Autonomous District Council or Autonomous Regional Council or which are accepted as rights of tribals under any traditional or customary law of the concerned tribes of any State; (k) right of access to biodiversity and community right to intellectual property and traditional knowledge related to biodiversity and cultural diversity; (l) any other traditional right customarily enjoyed by the forest dwelling Scheduled Tribes or other traditional forest dwellers, as the case may be, which are not mentioned in clauses (a) to (k) but excluding the traditional right of hunting or trapping or extracting a part of the body of any species of wild animal;

Act/Law /International Conventions	Key Provisions	Summary
		(m) right to in situ rehabilitation including alternative land in cases where the Scheduled Tribes and other traditional forest dwellers have been illegally evicted or displaced from forest land of any description without receiving their legal entitlement to rehabilitation prior to the 13th day of December, 2005 • Chapter III. Recognition of, and vesting of, forest rights in forest dwelling Scheduled Tribes and other traditional forest dwellers. – (1) Notwithstanding anything contained in any other law for the time being in force, and subject to the provisions of this Act, the Central Government hereby recognises and vests forest rights in (https://www.indiacode.nic.in/bitstream/123456789/8311/1/a2007-02.pdf)*
ILO C107 - Indigenous and Tribal Populations Convention, 1957 (No. 107)	Article 3	• So long as the social, economic and cultural conditions of the populations concerned prevent them from enjoying the benefits of the general laws of the country to which they belong, special measures shall be adopted for the protection of the institutions, persons, property and labour of these populations. • Care shall be taken to ensure that such special measures of protection: (a) are not used as a means of creating or prolonging a state of segregation; and (b) will be continued only so long as there is need for special protection and only to the extent that such protection is necessary. • Enjoyment of the general rights of citizenship, without discrimination, shall not be prejudiced in any way by such special measures of protection. (https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C107)*
The Industrial Employment Act, 1946	Schedule 1	• Industry to provide ticket/temporary ticket/badali card/casual care to employee of different categories (permanent, probationers, badlis, temporary, casual, apprentices)

Act/Law /International Conventions	Key Provisions	Summary
		• The periods and hours of work for all classes of workers in each shift shall be exhibited in English and in the principal languages of workmen employed in the establishment on notice boards maintained at or near the main entrance of the establishment and at the timekeeper 's office, if any. • Notices specifying (a) the days observed by the establishment as holidays, and (b) pay days shall be posted on the said notice boards. • Notice specifying the rates of wages payable to all classes for workmen and for all classes of work shall be displayed on the said notice boards. • Directives of shift working as per specified rules. • Notices' specifying the rates of wages payable to all classes of workman and for all classes of work shall be displayed on the said notice-boards. • Shift working and notice of changes in the shift- as specified in the act • All workmen shall be at work at the establishment at the times fixed and notified under paragraph 4. Workmen attending late will be liable to the deductions provided for in the Payment of Wages Act, 1936. • Holidays with pay will be allowed as provided for in 5[Chapter VIII of the Factories Act, 1948] and other holidays in accordance with law, contract, custom and usage • Payments of wages and dues as per specified time. • Following of specified rules for stoppage of work and termination of employment. • Disciplinary action against misconduct as specified in Act (https://labour.gov.in/sites/default/files/INDUSTRIALEMPLOYMENT(STANDINGORDERS)1CENTRALRULES1946.pdf)*

*Please visit the link for further details

Annexure I.
List of Agro-Chemicals Banned in India

LIST OF PESTICIDES WHICH ARE BANNED, REFUSED REGISTRATION AND RESTRICTED IN USE

(As on 21.01.2021)

I. PESTICIDES/FORMULATIONS BANNED IN INDIA

A. Pesticides Banned for manufacture, import and use

1. Alachlor(Vide S.O. 3951(E), dated 08.08.2018)
2. Aldicarb (vide S.O. 682 (E) dated 17th July 2001)
3. Aldrin
4. Benzene Hexachloride
5. Benomyl (vide S.O 3951(E) dated 8th August, 2018)
6. Calcium Cyanide
7. Carbaryl (vide S.O 3951(E) dated 8th August, 2018)
8. Chlorbenzilate (vide S.O. 682 (E) dated 17th July 2001)
9. Chlordane
10. Chlorofenvinphos
11. Copper Acetoarsenite
12. Diazinon (vide S.O 3951(E) dated 8th August, 2018)
13. Dibromochloropropane (DBCP) (vide S.O. 569 (E) dated 25th July 1989)
14. Dichlorovos (Vide S.O. 3951(E), dated 08.08.2018)
15. Dieldrin (vide S.O. 682 (E) dated 17th July 2001)
16. Endosulfron (vide ad-Interim order of the Supreme Court of India in the Writ Petition (Civil) No. 213 of 2011 dated 13th May, 2011 and finally disposed of dated 10th January, 2017)
17. Endrin
18. Ethyl Mercury Chloride
19. Ethyl Parathion
20. Ethylene Dibromide (EDB) (vide S.O. 682 (E) dated 17th July 2001)
21. Fenarimol (vide S.O 3951(E) dated 8th August, 2018)
22. Fenthion (vide S.O 3951(E) dated 8th August, 2018)
23. Heptachlor
24. Lindane (Gamma-HCH)

25. Linuron (vide S.O 3951(E) dated 8th August, 2018)
26. Maleic Hydrazide (vide S.O. 682 (E) dated 17th July 2001)
27. Menazon
28. Methoxy Ethyl Mercury Chloride (vide S.O 3951(E) dated 8th August, 2018)
29. Methyl Parathion (vide S.O 3951(E) dated 8th August, 2018)
30. Metoxuron
31. Nitrofen
32. Paraquat Dimethyl Sulphate
33. Pentachloro Nitrobenzene (PCNB) (vide S.O. 569 (E) dated 25th July 1989)
34. Pentachlorophenol
35. Phenyl Mercury Acetate
36. Phorate (Vide S.O. 3951(E), dated 08.08.2018
37. Phosphamidon(Vide S.O. 3951(E), dated 08.08.2018)
38. Sodium Cyanide (banned for Insecticidal purpose only vide S.O 3951(E) dated 8th August, 2018)*
39. Sodium Methane Arsonate
40. Tetradifon
41. Thiometon (vide S.O 3951(E) dated 8th August, 2018)
42. Toxaphene(Camphechlor) (vide S.O. 569 (E) dated 25th July 1989)
43. Triazophos(Vide S.O. 3951(E), dated 08.08.2018)
44. Tridemorph (vide S.O 3951(E) dated 8th August, 2018)
45. Trichloro acetic acid (TCA) (vide S.O. 682 (E) dated 17th July 2001)
46. Trichlorfon(Vide S.O. 3951(E), dated 08.08.2018)

B. Pesticide formulations banned for import, manufacture and use

1. Carbofuron 50% SP (vide S.O. 678 (E) dated 17th July 2001)
2. Methomyl 12.5% L
3. Methomyl 24% formulation
4. Phosphamidon 85% SL

C. Pesticide/Pesticide formulations banned for use but continued to manufacture for export

1. Captafol 80% Powder (vide S.O. 679 (E) dated 17th July 2001)
2. Dichlorvos (vide S.O. 1196 (E) dated 20th March 2020)
3. Nicotin Sulfate (vide S.O. 325 (E) dated 11th May 1992)
4. Phorate (vide S.O. 1196 (E) dated 20th March 2020)
5. Triazophos (vide S.O. 1196 (E) dated 20th March 2020)

D. Pesticides Withdrawn

(Withdrawal may become inoperative as soon as required complete data as per the guidelines is generated & submitted by the Pesticides Industry to the Government and accepted by the Registration Committee. (S.O 915(E) dated 15th Jun,2006)

1. Dalapon
2. Ferbam
3. Formothion
4. Nickel Chloride
5. Paradichlorobenzene (PDCB)
6. Simazine
7. Sirmate (S.O. 2485 (E) dated 24th September 2014)
8. Warfarin (vide S.O. 915 (E) dated 15th June 2006)

* Regulation to be continued in the extant manner for non-insecticidal uses.

II. PESTICIDES REFUSED REGISTRATION

S.No.	Name of Pesticides
1.	2,4, 5-T
2.	Ammonium Sulphamate
3.	Azinphos Ethyl
4.	Azinphos Methyl
5.	Binapacryl
6.	Calcium Arsenate
7.	Carbophenothion
8.	Chinomethionate (Morestan)
9.	Dicrotophos
10.	EPN
11.	Fentin Acetate
12.	Fentin Hydroxide
13.	Lead Arsenate
14.	Leptophos (Phosvel)
15.	Mephosfolan
16.	Mevinphos (Phosdrin)
17.	Thiodemeton / Disulfoton
18.	Vamidothion

III. PESTICIDES RESTRICTED FOR USE IN THE COUNTRY

S.No.	Name of Pesticides	Details of Restrictions
1	Aluminium Phosphide	• The Pest Control Operations with Aluminium Phosphide may be undertaken only by Govt./Govt. undertakings / Govt. Organizations / pest control operators under the strict supervision of Govt. Experts or experts whose expertise is approved by the Plant Protection Advisor to Govt. of India except 1Aluminium Phosphide 15 % 12 g tablet and 2Aluminum Phosphide 6 % tablet. [RC decision circular F No. 14-11(2)-CIR-II (Vol. II) dated 21-09-1984 and G.S.R. 371(E) dated 20th may 1999]. 1Decision of 282nd RC held on 02-11-2007 and, 2Decision of 326th RC held on 15-02-2012. • The production, marketing and use of Aluminium Phosphide tube packs with a capacity of 10 and 20 tablets of 3 g each of Aluminium Phosphide are banned completely. (S.O.677 (E) dated 17thJuly, 2001)
2	Captafol	• The use of Captafol as foliar spray is banned. Captafol shall be used only as seed dresser. • (S.O.569 (E) dated 25thJuly, 1989) • The manufacture of Captafol 80 % powder for dry seed treatment (DS) is banned for use in the country except manufacture for export. • (S.O.679 (E) dated 17thJuly, 2001)
3	Cypermethrin	• Cypermethrin 3 % Smoke Generator is to be used only through Pest Control Operators and not allowed to be used by the General Public. [Order of Hon,ble High Court of Delhi in WP(C) 10052 of 2009 dated 1407-2009 and LPA-429/2009 dated 08-09-2009]
4	Dazomet	• The use of Dazomet is not permitted on Tea. • (S.O.3006 (E) dated 31st Dec, 2008)
5	Dichloro Diphenyl Trichloroethane (DDT)	• The use of DDT for the domestic Public Health Programme is restricted up to 10,000 Metric Tonnes per annum, except in case of any major outbreak of epidemic. M/s Hindustan Insecticides Ltd., the sole manufacturer of DDT in the country may manufactureDDT for export to other countries for use in vector control for public health purpose. The export of DDT to Parties and State non-Parties shall be strictly in accordance with the paragraph 2(b) article 3 of the Stockholm Convention on Persistent Organic Pollutants (POPs).

S.No.	Name of Pesticides	Details of Restrictions
		• (S.O.295 (E) dated 8th March, 2006) • Use of DDT in Agriculture is withdrawn. In very special circumstances warranting the use of DDT for plant protection work, the state or central Govt. may purchase it directly from M/s Hindustan Insecticides Ltd. to be used under expert Governmental supervision. • (S.O.378 (E) dated 26thMay, 1989)
6	Fenitrothion	• The use of Fenitrothion is banned in Agriculture except for locust control in scheduled desert area and public health. • (S.O.706 (E) dated 03rdMay, 2007)
7	Methyl Bromide	• Methyl Bromide may be used only by Govt./Govt. undertakings/Govt. Organizations / Pest control operators under the strict supervision of Govt. Experts or Experts whose expertise is approved by the Plant Protection Advisor to Govt. of India. • [G.S.R.371 (E) dated 20thMay, 1999 and earlier RC decision]
8	Monocrotophos	• Monocrotophos is banned for use on vegetables. • (S.O.1482 (E) dated 10thOct, 2005)
9	Trifluralin	(vide S.O 3951(E) dated 8th August, 2018) (i) The Registration, import, manufacture, formulation, transport, sell and its all uses except use in wheat shall be prohibited and completely banned from date of publication of this Order. (ii) A cautionary statement has to be incorporated in the label and leaflet that it is toxic to aquatic organism, hence should not be used near water bodies, aquaculture or pisciculture area.

IV. PESTICIDES WHICH SHALL BE PHASED OUT VIDE GAZETTE NOTIFICATION NO. S.O. 3951 (E)

S.No.	Name of Pesticides	Insecticides to be phased out by 31st December, 2020
1	Alachlor	(i) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate Alachlor with effect from the 1st January, 2019. (iii) The use of Alachlor shall be completely banned with effect from the 31st December, 2020. (iv) It is toxic to aquatic organism, hence a cautionary statement should be incorporatedon label and leaflets " toxic to aquatic organism hence should not be used near water bodies, aquaculture or pisciculture area.
2	Dichlorovos	(i) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate dichlorvos with effect from the January, 2019. (iii) The use of dichlorvos shall be completely banned with effect from the 31st December, 2020. (iv) It is very toxic to aquatic organism, hence a cautionary statement should be incorporated on label and leaflets that it is toxic to aquatic organism, hence should not be used near water bodies, aquaculture or pisciculture area. (v) A warning may be incorporated in the label and leaflet stating that this product is toxic to honey bees so do not spray during active honey bees foraging period of the day.
3	Phorate	(I) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate Phorate with effect from the 1st January, 2019. (iii) The use of Phorate shall be completely banned with effect from the 31st December, 2020. (iv) It is very toxic to aquatic organism, hence a cautionary statement should be incorporated on label and leaflets that it is toxic to aquatic organism, hence should not be used near water bodies, aquaculture or pisciculture area. (v) A warning may be incorporated in the label and leaflet stating that this product is toxic to honey bees so do not spray during active honey bees foraging period of the day.

S.No.	Name of Pesticides	Insecticides to be phased out by 31st December, 2020
		(vi) A cautionary statement should incorporate in label and leaflet that this product is toxic to birds.
4	Phosphamidon	(I) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate Phosphamidon with effect from the 1st January, 2019. (iii) The use of Phosphamidon shall be completely banned with effect from the 31st December, 2020. (iv) It is very toxic to aquatic organism, hence a cautionary statement should be incorporated on label and leaflets that it is toxic to aquatic organism, hence should not be used near water bodies, aquaculture or pisciculture area. (v) A warning may be incorporated in the label and leaflet stating that this product is toxic to honey bees so do not spray during active honey bees foraging period of the day. (vi) A cautionary statement should incorporate in label and leaflet that this product is toxic to birds.
3	Triazophos	(i) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate Triazophos with effect from the 1 st January, 2019. (iii) The use of Triazophos shall be completely banned with effect from the 31st December, 2020.
6	Trichlorfon	(i) No new certificate of registration to manufacture shall be issued after publication of this Order. (ii) No person shall import, manufacture or formulate Trichlorfon with effect from the 1 st January, 2019. (iii) The use Trichlorfon shall be completely banned with effect from the 31st December, 2020. (iv) It is very toxic to aquatic organism, hence a cautionary statement should be incorporated on label and leaflets that it is toxic to aquatic organism, hence should not be used near water bodies, aquaculture or pisciculture area. (v) A cautionary statement should incorporate in label and leaflet that this product is toxic to birds.

Good Agricultural Practices for Soybean - General Guidelines

Good Agricultural Practices (GAPs) are a set of principles, regulations and technical recommendations applicable to production, processing and food transport, addressing human health care, environment protection and improvement of worker conditions and their families. GAP, as defined by FAO, are a "collection of principles to apply for on-farm production and postproduction processes, resulting in safe and healthy food and non-food agricultural products, while taking into account economic, social and environmental sustainability". Implementing GAP also helps promote sustainable agriculture and contributes to meeting national and international environmental and social developmental objectives. It has been documented that implementation of GAP encourages promotion of the optimum use of resources such as pesticides, fertilizers, and water, and eco-friendly agriculture. Its social dimension would be to protect the agricultural workers' health from improper use of chemicals and pesticides. The guidelines are applicable to the production, harvesting, storage, etc. of soybean. Farmers can adopt appropriate measures to produce safe and premium soybean.

Soil Management

1. Select the soil with moderate to high fertility.
2. Plough in crop residues and vegetation to improve soil fertility. Break up large lumps of soil and level.
3. Frequently apply well decomposed compost or other organic materials (including crop residues) and incorporate in to the soil
4. If necessary, acid soil can be corrected by liming, whereas alkaline soil can be corrected by gypsum.
5. Do not plant soybean in low land and too shallow soils.
6. Avoid over tillage.

Seed

1. Look for varieties which are biotic (weeds, insect-pest and disease) resistant and abiotic (drought, heat) resistant.
2. Plant more than 2 varieties (Varietal cafeteria approach).
3. Test seed for germination before start of the rainy season.
4. Do not recycle seed for more than 3 seasons.
5. Inoculate seed with potent cultures of Tricoderma viride @ 5 g/kg seed than inoculate with Bradyrhizobium japonicum and PSB/PSM, both @ 5 g/kg seed

Use of Fertilizers

1. Apply the required level of nutrients through right sources at the right time and right place.
2. Use organic manure and aged/well composted manure.
3. Do not apply any nitrogenous fertilizer in standing crop.
4. Keep fertilizers in a dry, clean and sheltered place.

Planting

1. Plant soybean with broad bed furrow (BBF) or ridge furrow (FIRBS) or open furrow after every 3/6/9 rows of soybean to avoid the adverse effect of drought or excess rain.
2. Apply required seed rate based on seed index and germinability.
3. Maintain planting geometry.
4. Use 1.25 times seed quantity in delayed planting coupled with narrow row to row (30 cm) planting

Pest and Disease Management

1. Always use preventive methods. Examples are using disease-free seeds, adopting crop rotation and intercropping, crops with pest deterring value (trap crop-Suva), and instant removal of infected/diseased materials.
2. Adopt physical control measures. Examples include simple hand-picking, erecting traps and mulching,
3. If really necessary, use bio-pesticides/ synthetic pesticides.
4. Follow chemical rotation.
5. Weeding in scheduled time frame.

Use of Pesticides

1. Only purchase and use registered pesticides.
2. Do not apply pesticides during strong winds and heavy rain.
3. Strictly adhere to the withholding period (i.e. the lag between pesticide application and harvesting) on the pesticide label.
4. Hold pesticides in original containers and keep them tightly closed in a cool, well-ventilated location away from the reach of children.
5. Do not recycle or re-use pesticide containers for other usage. Deform and dispose them as prescribed.
6. Spray pesticides with complete sets of protective clothing.

Irrigation

1. Adopt micro-irrigation methods such as drip or sprinkler.
2. Irrigate fields early in the morning, late in the evening or at night during long dry spell at critical stages i.e. seedling, flowering and pod filling.
3. Irrigate the soybean crop before development of soil cracks.
4. Avoid uneven application of water.

Harvesting and Post-harvesting

1. Harvest at the right stage of maturity to avoid the losses due to pod shattering.
2. If the produce use for seed purposes, thresh the material at the speed of 350 to 400 rpm of thresher.
3. If produce kept as seed for next season, keep the seed in gunny bags not more than 40 kg capacity and store in a cool and dry place.
4. Always keep containers, tools, equipment, packing and storage areas clean and tidy.

ISSS Secretariat

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