



Centre for Sustainable Agriculture

**12-13-485/5, Nagarjuna Nagar, Tarnaka,
Secunderabad 500 017**

<http://www.csa-india.org> csa@csa-india.org 08500983300

Andhra Pradesh | Maharashtra | Punjab | Sikkim | Telangana | Tripura

To:

15th August, 2020

Joint Secretary (Plant Protection),
Ministry of Agriculture and Farmers Welfare,
Department of Agriculture, Cooperation and Farmers Welfare,
Krishi Bhawan,
New Delhi-110 001.

Dear Sir,

Subject: Feedback on S.O. 1512(E) Draft Order – Banning of Insecticides Order, 2020

Greetings from Centre for Sustainable Agriculture!

We are an independent organisation working on agroecological approach to farming from research to extension. Our work on Non Pesticidal Management (NPM) took a farmer field school approach to train farmers/farmer groups who are part of the women SHGs in Andhra Pradesh had a significant impact in reducing pesticide use in the state (<https://csa-india.org/non-pesticidal-management/>). For this work CSA has won the prestigious Bihar Rural Innovation Award and Maharashtra Rural Innovation Award in 2014. Similar efforts have been made in other states. Currently, CSA is also working with government of AP in implementing Natural farming and taking a scientific approach. The impacts are well observed and there is a continuous decrease in the chemical pesticide is in the state. All these experiences shows that farming is possible to do without the toxic chemical pesticides. With this sound knowledge on the pest management we wish to bring the following to your notice on S.O. 1512(E) Draft Order Notification called “Banning of Insecticides Order, 2020” which was published on 18th May 2020 by the Department of Agriculture, Cooperation and Farmers’ Welfare of the Ministry of Agriculture and Farmers’ Welfare, Government of India.

We appreciate the steps taken by the government to bring in a ban on the 27 pesticides based on the recommendations made by the Expert Committee headed by Dr Anupam Verma (an eminent Agricultural Scientist).

Given that the Government of India took quite long to actually effect a ban on 12 pesticides in the past from the time the draft order was notified, we urge that the Centre actively facilitate the suspension of licensing for sales of these pesticides in all those states where the state governments are keen on putting into place an end to the usage of these deadly pesticides.

While this draft Order refers to only 27 bannable insecticides, the Ministry of Agriculture should look at another 70+ pesticides at least which need to be banned in India. A complete

list of pesticides banned in one or more countries elsewhere including many not necessarily considered by Anupam Verma Committee. Within such a list of bannable pesticides are pesticides such as Paraquat.

Pesticide Poisoning Deaths & Hospitalisations

Such deaths and hospitalisations related to pesticides can be intentional, occupational and accidental.

Our fact finding efforts, village level feed backs, and the reports by various groups and media over many years show very clearly that certain pesticides like Monocrotophos, Acephate, Carbendazim, Mancozeb, Quinalphos, Chlorpyriphos, Methomyl etc., are repeatedly implicated in such incidents of occupational poisoning. A ban on these pesticides will certainly help reduce such pesticide poisoning deaths and hospitalisations. The right to life of farm workers and farmers struggling to make a day's living by spraying pesticides will be thereby protected.

Further, studies have shown that banning of specific HHPs in Sri Lanka, Bangladesh, China and South Korea led to reduction in pesticide-related suicides as well. A recent persuasive paper clearly argues that pesticides such as monocrotophos, quinalphos, methomyl, dimethoate etc., (in addition to other pesticides like paraquat) which are listed as HHPs (Highly Hazardous Pesticides) which also feature in the proposed ban, need to be banned.

While systematic data collection has not been possible in India about accidental deaths in India due to pesticide poisoning, some well-publicised instances like the deaths of 23 children in the mid-day meal poisoning instance in Chhapra in Bihar had implicated Monocrotophos as the culprit chemical, for instance. Or the Chamarajnar poisoning case in Karnataka in 2018 where monocrotophos was again implicated leading to the death of 15 devotees. In 2009, World Health Organisation called for India to ban monocrotophos because of its extreme toxicity too. In a news report – Cheminova, a unit of Auriga Industries had said that “We decided to phase out monocrotophos because with many alternative products, we could not see any reason to have such a toxic product in a country like India.” It was one of the companies which opposed ban on monocrotophos in 2004.

Other than 3 WHO Class Ib pesticides and 13 Class II pesticides in this list of 27 pesticides, India continues with 9 more Class Ia and Ib pesticides – Bromadiolone, Abamectin, Coumatetralyl, Cyfluthrin, Beta-Cyfluthrin, Edifenphos, Oxydemeton-methyl, Propetamphos and Zinc Phosphide.

What the government is proposing to do in terms of banning 27 deadly pesticides is an important step to uphold the right to life of all people being affected by intentional, occupational and accidental pesticide poisonings.

Chronic Health Impacts

It is not just acute health impacts but numerous chronic health impacts that the government should be concerned about too. 3 of the 27 are endocrine disrupting, 3 are reproductive toxicants, 6 are probable/likely carcinogens as per US EPA and 1 is a probable human carcinogen in WHO classification.

An investigation in 2016 found that 90.04% patients out of 432 people were farmers, orchard inhabitants in Kashmir were exposed to chlorpyrifos, dimethoate, mancozeb and captan for more than 10-20 years.

Within chronic health impacts are issues like neurotoxicity of pesticides making exposed persons depressed and suicidal and resorting to killing themselves using those very pesticides, and of immunity system getting affected which will have its own implications in pandemics like the current covid-19 pandemic.

Impact on non-target organisms

Malathion, chlorpyrifos, monocrotophos etc., are implicated in various wildlife poisonings across the country as per various media reports and experts. Further, the eco-toxicity of several of these pesticides in terms of their harmful impacts on bees, earthworms, fish etc., has already been noted.

In 2013, it was also found how poachers were using carbofuran to kill tigers and leopards in Uttarakhand.

Impact on Exports and India's Trade Security

The ban being proposed will help India in tackling rejections in our crop export consignments due to residues and improve our trade security. Presence of pesticide residues has led to rejection of hundreds of our exports in countries around the world in Asia, North America and Europe affecting businesses and farmers. For instance rejection of such exports was the main reason why the basmati rice export price reduced from Rs 3700 per quintal in 2018 to Rs 2700 per quintal in 2019. As per APEDA data, Basmati rice export reduced from Rs 32,804 crore in 2018-19 by nearly Rs 1700 crore to Rs 31,026 crore in 2019-20 with a major factor being export reductions in EU, Saudi Arabia due to pesticide residues. Basmati rice is the largest exported commodity in India's agricultural export basket. This not only affects the specified exports and causes revenue loss but also leads to a reputational loss with equally significant effects as well. Earlier this year, Indian government has recently said that due to EU's practice of low MRL limits, major barriers are created for exports of rice, peanuts, chillies, spices, tea, fruits, vegetables and sea food.

Some of the pesticides implicated in such export consignment rejections by other countries include acephate, carbofuran, thiophanate-methyl, chlorpyrifos, carbendazim, dicofol, dimethoate, malathion, methomyl, monocrotophos, quinalphos, methomyl, thiodicarb etc. which feature in the list of 27 pesticides to be banned. We therefore welcome the notification for this reason too.

State Governments Desirous of Ban as well

State governments like Kerala, Andhra Pradesh, Punjab, Maharashtra, Sikkim etc., have already taken pro-active interventions in trying to prohibit the use of several of these pesticides.

Kerala in 2011 stopped sales of Atrazine, Carbofuran and Monocrotophos amongst 11 others. AP had recommended to the Centre a ban on pesticides like Benfuracarb, Deltamethrin, Dinocap, Thiodicarb and Thiophanate-Methyl amongst several others. Maharashtra had recommended a ban on Monocrotophos and Acephate amongst others. Punjab, in January 2018, tried to stop sales of pesticides like Benfuracarb, Dicofol, Methomyl, Monocrotophos and Thiophanate Methyl in an order that sought to ban 20 pesticides. Monocrotophos was briefly banned by Adilabad district collector in 2019 as well. In 2014 under Sikkim Agricultural, Horticultural Input and Livestock Regulatory Feed Act Sikkim banned all inorganic agricultural inputs including highly hazardous pesticides and pesticides were withdrawn in Sikkim in 2016. However, a serious statutory shortcoming in our current regulatory regime restricts state governments (and district administration) from banning pesticides, and they can only resort to stopping of licensing of sales. The proposed ban will therefore uphold a federal cooperation spirit.

Chemical residues in our food

While the central sector scheme of the Ministry of Agriculture and Farmers' Welfare called MPRNL (Monitoring of Pesticide Residues at National Level) routinely reports a certain level of contamination of India's food samples tested in the project, there are numerous independent studies that indicate a much higher level of contamination of our foods with pesticide residues. Such studies emerge not just from civil society groups but several public sector research bodies and even from judicial institutions' *suo motu* action at times.

Some of the pesticides listed in the current notification feature in such reports too – chlorpyrifos, for example; deltamethrin, malathion, acephate, malathion, pendimethalin, quinalphos, dicofol, monocrotophos etc., for example, and this is one more reason why we welcome this ban order.

While we do not consider MRLs to be indicators of food safety, MRLs also have not been fully fixed for the pesticides listed for ban now. 47 food related uses of these pesticides have been permitted by the pesticide regulators without MRLs being fixed by the food safety regulators. Carbofuran, Chlorpyrifos, Dimethoate, Malathion, Monocrotophos, Quinalphos, Thiophanate-methyl, Thiram and Ziram do not have all MRLs determined.

Pursuing Sustainable Development Goals and Compliance with international commitments made by India

Goal 3 (Good Health and Well-being), Goal 12 (Responsible Consumption and Production), Goal 14 (Life Below Water), and Goal 15 (Life on Land) all require governments and businesses to get more responsible about toxic chemicals in our food, farming and environment. The proposed ban on 27 pesticides takes India closer to its commitments to SDGs, and therefore, is welcomed by us.

Pesticide Biosafety Data

Data from the industry must not be used for the pesticides review as this would present an obvious conflict of interest. We are also familiar with the delay tactics deployed by the industry as has happened with numerous pesticides in the past. Even in the case of the current

draft order, the industry is trying to make the whole issue as that related to data submission, whereas existing data is enough to take decisive action. For future, we propose that funds collected from pesticide industry on their turnover must be used by the government to conduct independent, transparent and long-term research studies on a continuous basis on the pesticides for which additional data is sought. Data from the studies must be put out in public domain on a government website in a searchable format. All the insecticides must be banned until such studies are completed – as the focus must be on biosafety. Further, industry-linked individuals must not be allowed to be involved in these studies and reviews, while public participation must be sought in general.

Meanwhile, if in the name of harmonization with regulation in other countries like OECD countries, India is willing to accept (toxicology) data generated in other countries through arrangements like Mutual Acceptance of Data (MAD), we should also accept data generated in other countries for taking prohibition-related decisions.

Scare-mongering in the name of impacts on Yields

It is often argued that production and productivity will get affected without the use of pesticides like the ones listed in the latest notification. This was argued for the August 2018 ban order too. However, there is no evidence whatsoever that these pesticides are needed for our productivity to be improved or sustained. No declines are seen in India specifically related to the earlier set of pesticides that were banned or in states that have taken policy decisions on certain deadly chemicals or an overall non-chemical approach. In fact, for most crops, evidence is to the contrary – production and yields are increasing.

These insecticides are banned in several countries including China and those in European Union – despite the bans, these countries have yields that are higher than India's for crops for which these pesticides are registered and used which illustrates that farming can indeed be done without these pesticides.

The post-modern science of pest management has numerous alternative practices and products through which crop pest management can be taken up successfully without impacting yields and this is well-documented already.

Alternative pest management science is not just safer but also far more affordable

The industry is heard arguing that alternatives to the about-to-be-banned chemicals are expensive for farmers. They say so because they are only looking at chemical molecules that the industry can manufacture and sell as alternatives. The real alternatives based in agro-ecological pest management do not cost much and farmers will find it very affordable and even free of cost in many cases if they use Nature's processes and products for pest management.

Pests and Diseases are symptoms of underlying ecological distortions caused by the a) Reducing biodiversity, b) Reducing Soil Health, c) High use of chemicals which kills natural enemies, d) Resurgence and Resistance caused by selection pressure and e) Climate Change. If these are not understood properly and efforts have not made to adopt an alternate frame

work which can restore the ecological balance both in the soils and the crop ecosystem, the problem can never be addressed. Increasing use of pesticides can only increase the pest problem as they keep disturbing the ecological balance.

The alternative frame work for the pest management which can also be ecologically sustainable and economically beneficial to the farmer is based on

- A shift from molecules to kills to practices to manages
- Preventive care than control
- Ecological Engineering and Non Pesticidal Management

Andhra Pradesh government was constantly trying to look for alternative pathways to address the mounting crisis in agriculture as the state is undergoing with deep crisis in agriculture. Both ecological and economic dimensions of the crisis got amplified with the changes in the climate in the last two decades. One of the major successful models was the 'Community Managed Sustainable Agriculture' where self help groups of women were trained through Farmer Field School approach on managing pests without using chemical pesticides. The program was implemented by Society for Elimination of Rural Poverty (SERP) under the leadership of Sri. T. Vijay Kumar, the then CEO of SERP and support from Centre for Sustainable Agriculture as the resource organisation and various NGOs supporting at the field level. This program which began in a small scale in 2005 expanded across the state (the undivided Andhra Pradesh) and could reduce the pesticide and thereby the costs of cultivations and the risks associated with chemical pesticides significantly by 2010. This experiences gave two significant learnings, one that regenerative, local resource based models of agriculture can accrue benefits to farmers and can be practiced on a large scale, second that using practicing farmers as resource persons, systemic approach of learning through farmer field schools and management of the program by local community with support from Government and partnership with NGOs can help to reach out to a scale.

States/UTs	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	kg/ha 2000-01	kg/ha 2009-10
Punjab	6900	5610	5975	6080	5760	5810	0.98	0.82
Haryana	4520	4560	4600	4390	4288	4070	0.84	0.68
Andhra Pradesh	2135	1997	1394	1541	1381	1015	0.34	0.09
Maharastra	3030	3198	3193	3050	2400	4639	0.17	0.24
Tamil Nadu	2466	2211	3940	2048	2317	2335	0.32	0.45
Gujarat	2900	2700	2670	2660	2650	2750	0.30	0.29
Kerala	360	571	545	780	272.69	631	0.31	0.26
Karnataka	2200	1638	1362	1588	1675	1647	0.17	0.14

**Source: <http://ppqs.gov.in/lpmPesticides.htm> as accessed in 2012 MT of active ingredient

The benefits at the farmers level from this initiative were also studied by Acharya NG Ranga University and key findings are presented below

Average Reduction in costs and net additional income for different crops

Crops	Reduction in cost due to NPM (Rs)	Reduction in costs due to use of organic fertilisers/manures (Rs)	Net additional income (Rs)
Paddy	940	1450	5590
Maize	1319	2357	5676
Cotton	1733	1968	5676
Chillies	1733	1968	7701
Groundnut	1021	3462	10483
Vegetables	1400	390	3790

Source: 3rd Party Evaluation of Rashtriya Krishi Vikas Yojana (RKVY) : Community Managed Organic Farming implemented by Society for Elimination of Rural Poverty (SERP)

Evaluation Team: Prof. R. Ratnakar, Director, Dr. M. Surya Mani, Professor, EXTENSION EDUCATION INSTITUTE, (Southern Region), Ministry of Agriculture, Government of India

Post 2014, after the state separation, Sri. T. Vijay Kumar returned back as Special Chief Secretary Agriculture and later as the Advisor to Rythu sadhikara Sanstha (RySS). Building on the learnings of CMSA in erstwhile Andhra Pradesh and MKSP across the country he initiated working on taking agroecological approaches to a larger scale through Department of Agriculture. This has considered several models of agroecological approaches to be tried across the state and further strengthening the program by focusing on building farmers institutions, expanding the income baskets of farmers by promoting allied livelihood activities etc. The program is now called as AP Community Managed Natural Farming (APCNF) with a focus on building climate resilience into farming livelihoods by adopting agriculture based on local resources.

District-wise Pesticide usage/consumption in Andhra Pradesh (TECHNICAL GRADE) - 2012-13 to 2017-18 (In MTs)

Sl No	District	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 upto Kharif (Sep)
1	Srikakulam	275.01	338.44	51.00	231.11	192.58	144.81	79.27	48.13
2	Vizianagaram	241.79	193.12	58.00	168.77	135.12	116.72	105.11	36.63
3	Visakhapatnam	232.06	225.41	151.00	178.57	156.89	155.85	105.56	68.94
4	East Godavari	376.83	255.03	760.00	368.24	413.35	227.07	149.11	110.67
5	West Godavari	354.01	378.10	163.00	305.48	225.04	226.63	128.80	107.00
6	Krishna	415.15	522.13	209.00	285.92	300.44	241.47	265.93	80.52
7	Guntur	570.13	697.82	58.00	402.02	343.67	294.77	311.29	135.00
8	Prakasam	270.10	328.44	672.00	441.18	450.73	215.52	166.10	65.41
9	SPSR Nellore	283.02	321.30	594.00	337.37	399.95	212.19	146.16	54.75
10	Kurnool	564.07	632.06	381.00	366.23	453.08	247.44	155.95	92.95
11	Anantapur	290.07	395.42	350.00	315.86	333.98	205.64	114.74	78.13
12	YSR Kadapa	254.05	189.11	515.00	368.76	325.62	231.45	107.04	56.12
13	Chittoor	284.05	406.02	287.00	483.53	319.59	193.23	179.82	64.70
Total		4410.36	4882.41	4249.00	4253.06	4050.05	2712.79	2014.88	998.96

Source: Department of Agriculture, Government of Andhra Pradesh

The NPM alternatives and approaches to pest management in various crops available on www.pestoscope.com which is tried and tested in lakhs of acres of CMSA (Community Managed Sustainable Agriculture) in Andhra Pradesh.

In the mainstream Integrated Pest Management (IPM)/Ecological Engineering are shown as the most progressive approach so far. Here, NIPHM has evolved IPM packages for numerous crops and this includes grapes (here, chemical alternatives to the proposed-to-be-banned pesticides can be seen). This is available at <https://niphm.gov.i/IPMPackages.html>.

Another ICAR institute, Indian Institute for Farming Systems Research (IIFSR) in Modipuram had brought out its own set of organic farming packages for different crops and states based on a multi-year research. These recommendations are available at: • http://www.iifsr.res.in/npof/index.php?id=package_of_practices . Therefore, farmers have the choice of choosing from IPM, NPM and organic PoPs.

The argument that pesticide usage in India is much lesser compared to other developed countries is fallacious. This argument is highly misleading because exposure routes are what matter, not (intensity of) usage of pesticide. Compared to other countries with high levels of mechanization, where a much smaller subset of farmers and farming community comes in contact with pesticides, farmers and farm workers are exposed in more direct ways to deadly pesticides in India and this is a more important aspect of risk assessment.

Arguments that this ban will lead to MNCs taking over our market is not a valid argument in this context since poisons are poisons, irrespective of which company makes them and have to be stopped. Further, Indian and foreign companies are working together in the case of numerous molecules. It is clear that many Chinese companies will find their markets being cut off with this ban, since the share of imports from China is the largest when it comes to these 27 pesticides. The industry is also throwing unreliable data about potential losses from the proposed ban. Meanwhile, it is clear that human lives/livelihoods and environmental regeneration matter more than profiteering by the industry.

We end this letter by once again welcoming this draft ban order, by demanding that the final ban order on all 27 pesticides be published soonest and also urging the Ministry to immediately take up review of other bannable pesticides which are around at least 75 in number. We would like the government to know that such bans indicate that our regulatory regime is not stagnant and is actually co-evolving with bio-safety science and post-modern pest management science. This is an opportunity that India has to take a leadership role in showing the world how agro-ecology can be scaled up and how a paradigmatic shift is possible by bold decisions around banning and phasing out agro-chemicals.

Sincerely,



Dr. G. V. Ramanjaneyulu
Executive Director
Centre for Sustainable Agriculture