

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 538 OF 2024**

**IN THE MATTER OF:**

News Item titled "*Arsenic in Food: Should you wash rice before cooking it*" appearing in *Times Now* dated 31.03.2024

To,

1. *Central Pollution Control Board, through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.*
2. *Ministry of Agriculture and Farmers Welfare, through its Secretary, Krishi Bhawan, New Delhi-110001*
3. *Ministry of Environment, Forest and Climate Change, through its Secretary, India Paryavaran Bhawan, Jorbagh Road, New Delhi-110003.*
4. *Indian Council of Agricultural Research (ICAR) through Director-General, Krishi Bhavan, New Delhi-110001*  
Email: [secy.car@nic.in](mailto:secy.car@nic.in)

**INDEX**

**NDOH- 14.08.2025**

S. No.	Particulars	Page No.
<b>1.</b>	Counter Affidavit filed on behalf of the Respondent No. 4 i.e., Indian Council of Agricultural Research (ICAR);	1-9
<b>2.</b>	<b>Annexure R-1:</b> True copy of News Item titled " <i>Arsenic in Food: Should you wash rice before cooking it</i> " appearing in <i>Times Now</i> dated 31.03.2024	10-15
<b>3.</b>	<b>Annexure R-2:</b> A true copy of order dated 16.05.2024 passed by this Hon'ble Tribunal;	16-18
<b>4.</b>	<b>Annexure R- 3:</b> A true copy of order dated 16.12.2024 passed by this Hon'ble Tribunal;	19-21

5.	Proof of Service;	22
----	-------------------	----

Place: New Delhi  
Dated: 12.08.2025

THROUGH



[Ashish Tiwari]  
Advocate for the Respondent No. 4 (ICAR)  
B-3, Sagar Apartment  
6, Tilak Marg, New Delhi-1  
(M)9971382986  
Email: law.aashish@gmail.com

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 538 OF 2024**

**IN THE MATTER OF:**

News Item titled "*Arsenic in Food: Should you wash rice before cooking it*" appearing in Times Now dated 31.03.2024

To,

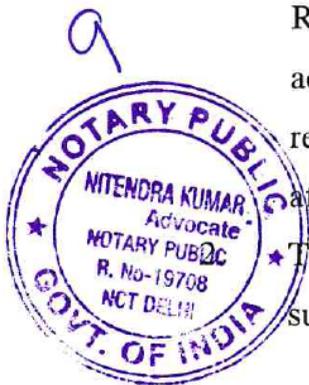
1. *Central Pollution Control Board, through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi 110032.*
2. *Ministry of Agriculture and Farmers Welfare, through its Secretary, Krishi Bhawan, New Delhi-110001*
3. *Ministry of Environment, Forest and Climate Change, through its Secretary, India Paryavaran Bhawan, Jorbagh Road, New Delhi-110003.*
4. *Indian Council of Agricultural Research (ICAR) through Director-General. Krishi Bhawan, New Delhi-110001*  
Email: [secy.car@nic.in](mailto:secy.car@nic.in)

**SHORT AFFIDAVIT ON BEHALF OF RESPONDENT NO.1 I.E.,  
INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)**

I, Hareesh Nair aged about 54 years, working as Legal Advisor, Indian Council of Agricultural Research, Krishi Bhawan, New Delhi-110001, do hereby solemnly affirm and state as follows:

1. That, I am duly authorized to submit this counter affidavit on behalf of the Respondent No.4 in the above captioned matter and as such I am well acquainted with the facts and circumstances of the case based on the records of the case and hence, competent to swear and file this counter affidavit.

That the present original application was filed and registered on 21.08.2024 suo motu on the basis of the News Item titled "*Arsenic in Food: Should*



*you wash rice before cooking it" appearing in Times Now dated 31.03.2024.*

True copy of News Item titled "*Arsenic in Food: Should you wash rice before cooking it" appearing in Times Now dated 31.03.2024* is annexed herein and marked as **Annexure R-1** [at page 10 to 15];

3. The present Original Application was listed before the Hon'ble Tribunal on 16.05.2024, wherein the Hon'ble Tribunal passed the following Order:

*2. The matter relates to the presence of arsenic in rice as warned by experts that can be poisonous for human body. As per the article, arsenic found naturally in soil and water is considered toxic and can be easily washed away by soaking and washing the rice properly.*

*3. The article states that arsenic naturally occurs in water, soil and rocks, but its levels may be higher in some areas than others. It easily enters the food chain and accumulates in significant amounts in both animals and plants, some of which are eaten by humans. The article alleges that as a result of human activities, arsenic poisoning has been rising. The main sources of arsenic pollution include certain pesticides and herbicides, wood preservatives, phosphate fertilizers, industrial waste, mining activities, coal burning and smelting.*

*4. The article states that rice is particularly susceptible to arsenic contamination because it is grown in flooded fields, and it absorbs more arsenic from water and soil compared to other common food crops. It states that as per World Health Organisation, long term symptoms of arsenic poisoning tend to occur in the skin first and can show up within five years of exposure. Cases of extreme poisoning can even lead to death.*

*5. The news item raises substantial issue relating to compliance of the environmental norms and implementation of the provisions of scheduled enactment.*

*6. Power of the Tribunal to take up the matter suo-motu has been recognized by the Hon'ble Supreme Court in the matter of "Municipal Corporation of Greater Mumbai vs. Ankita Sinha & Ors." reported in 2021 SCC Online SC 897.*



7. Hence, we implead the following as respondents in this matter:

(i). Central Pollution Control Board, through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi 110032.

(ii). Ministry of Agriculture and Farmers Welfare, through its Secretary, Krishi Bhawan, New Delhi-110001

(iii). Ministry of Environment, Forest and Climate Change, through its Secretary, India Paryavaran Bhawan, Jorbagh Road, New Delhi-110003.

8. Let notice be issued to the above respondents for filing their response at least one week before the next date of hearing.

9. List on 02.09.2024.

True copy of order dated 16.05.2024 passed by this Hon'ble Tribunal annexed herein and marked as **Annexure R-2 [at page 16 to 18 ]**;

4. Vide order dated 16.12.2024, while taking note of the reply filed by the Respondent No. 2 Ministry of Agriculture and Farmers Welfare through its Secretary, this Hon'ble Tribunal impleaded the Answering Respondent as the Respondent No. 4 and observed as under:

1. Respondent no.2-Ministry of Agriculture and Farmers Welfare through its Secretary has filed the reply dated 12.12.2024 stating that there are two departments under Ministry of Agriculture i.e. Department of Agriculture and Farmers Welfare and, secondly, Department of Agriculture Research and Education and the two departments are under two different secretaries. Reply says that inputs have been received from ICAR and ICAR has also given certain suggestions which are disclosed in the report of respondent no.2 as follows:

"5. That the Department of Agriculture and Farmers Welfare sought inputs from the ICAR regarding issue involved in the present Original Application and the inputs received from them as follows:



a. That in India States of West Bengal and Bihar are reported to be most affected by Arsenic contamination of ground water. Arsenic concentration in ground water generally associated with geogenic sources and is a concern to soil-plant-animal-human systems. Irrigation by contaminated groundwater is the major route for Arsenic enter into agricultural soil which ultimately leads to its entry into the food chain. Since rice is a water intensive crop this leads to significant buildup of arsenic in rice grain. Transport of Arsenic contaminated rice grain grown in Arsenic endemic areas to non-endemic sites and consequent dietary intakes will also spread arsenic exposure in the non-endemic population.

b. That the distribution of arsenic content in plant parts generally followed the order: root>stem>leaf>economic produce. The edible parts of leafy (spinach, fenugreek etc.) and underground vegetables (beet, raddish etc.) contained much higher arsenic as compared to vegetables with fruit as edible part (Brinjal, Beans, Ladies Finger, Tomato etc.). In general, fruit/grain of plants showed less accumulation of arsenic compared to root, stem and leaf.

6. That the ICAR suggests following remedial measures to minimize the effect of arsenic in soil-plant system.

a) Boro Rice requiring more groundwater should be replaced with other suitable and less water demanding crops.

b) Growing of relatively arsenic tolerant rice varieties Muktashri (IET 21845), IET 1444, Gotrabhog, Nayanmoni and Shatabdi.

c) Direct seeded rice using drum seeder and seed drill with reduced ground water use d) Preference to growing non-edible and leguminous crops during dry season in the hotspot areas

e) Biochar application: Biochar has been reported to reduce the Arsenic availability and bioaccumulation in rice grains. Biochar has also been reported to improve soil fertility and mitigate methane (CH<sub>4</sub>) emissions from rice cultivation.

f) Agronomical interventions: Application of silicate fertilizers, silica-rich rice husk, and management of irrigation water have been found to reduce the availability of arsenic to rice grain.



g) *Storing of arsenic contaminated groundwater in ponds and subsequent dilution with rainwater. Also conjunctive use of ground and surface water to dilute the arsenic content.*

h) *Promote recharge of groundwater with rainwater free of arsenic*

i) *Increased use of FYM and other manures + green manure crops j) Cost-effective phytoremediation employing hyper-accumulating plant/microbial spp like brake fern (Pteris vittata), water hyacinth (Eichornia crassipes), blue green alage(BGA), Croton sparsiflora etc.) hold promise in detoxification of arsenic from soils and aquatic systems."*

2. *Counsel for respondent no.2 has submitted that Secretary of Department of Agriculture Research and Education is also the DG of ICAR, therefore, for effective assistance ICAR be impleaded as respondent.*

3. *Keeping in view the submission made above, the following is impleaded as respondent no.4.*

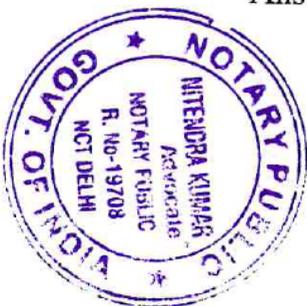
*Respondent No.4-Indian Council of Agricultural Research (ICAR)through Director-General.*

4. *Mr. Gigi.C. George, Learned Counsel accepts notice on behalf of newly added respondent no.4 and seeks four weeks' time to file the reply.*

.....

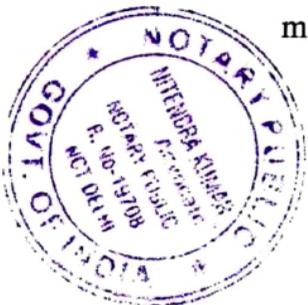
True copy of order dated 16.12.2024 passed by this Hon'ble Tribunal annexed herein and marked as **Annexure R-3 [at page 19 to 21 ]**;

5. Thereafter, formal notice was issued by this Hon'ble Tribunal to the Answering Respondent vide its order dated 15.04.2025, directing it to file



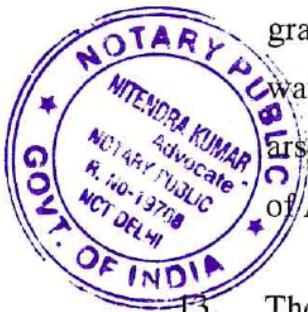
reply affidavit. In compliance thereof, the Answering Respondent is filing its short affidavit herein.

6. It is submitted that the Answering Respondent shares the concerns of the the Hon'ble Tribunal as regards arsenic contamination found in food especially various varieties of rice. The issue in the news report are quite genuine and are of utmost significance.
7. It is submitted that in India, groundwater Arsenic contamination was first identified in year 1983 in 24 Parganas district of West Bengal. Thereafter, it was also reported from other states like Bihar, Uttar Pradesh, Jharkhand, Assam, etc.
8. The major source of arsenic contamination is use of contaminated ground water for meeting the requirements of daily needs like drinking and cooking including agriculture. The chronic arsenic toxicity in human can occur through various sources primarily through the ingestion of arsenic-contaminated groundwater, eating seafood like fish, shrimp and shell-fish and plants/ crops raised with use of polluted/arsenic contaminated water and with excessive use of pesticides.
9. In rice, the contents of high arsenic are reported mainly from West Bengal, Chhattisgarh, parts of Bihar, Uttar Pradesh and other North Eastern States. Among all crop plants, rice is one of the most efficient transporters of Si and inadvertently passes arsenite through silicic acid transporter. Due to this factor, higher concentrations of arsenic are found in rice grain, greater than the recommended safe limits.
10. The research has also revealed that arsenic accumulation in rice grain is mainly due to the flooded conditions in which rice is cultivated. Hence, by



cultivating rice as aerobic rice cultivation, alternate wetting and drying and raised bed cultivation shall be very effective for the reduction of arsenic accumulation in rice and also save water.

11. It is further submitted that another alternative is to simply avoid irrigation with groundwater and rely only on rainwater / rainfed rice cultivation. This is a simple and effective methods however, it would not be feasible for summer rice crops. Nevertheless, if proper rainwater storage could be achieved, rainwater-mediated irrigation could be practiced in rice even during the summer season. The research has also suggested that the existence of micronutrients like iron, sulphur and silicon; and adequate quantities of phosphorous in the soil could decrease arsenic absorption by the rice roots.
12. It is further submitted that while washing/ringing rice properly with water could reduce the arsenic content available to large extent but there are very few research studies available to confirm the same. It is submitted that in a study conducted on rice from West Bengal by Sengupta et al. (2006), suggested that upto 28 % of the arsenic was reduced merely by proper washing of the grains having initial value of As 380.3  $\mu\text{g}/\text{kg}$  to 273.6  $\mu\text{g}/\text{kg}$ . However, results by Halder et al. (2014) for samples from West Bengal, showed that rinsing the rice with water (having As concentrations below 10  $\mu\text{g}/\text{L}$  As), had only upto 4 % reduction in the arsenic content of the grains. The decrease of Arsenic content by washing depends on the type of water and its initial arsenic load. In fact, the ground water if has high arsenic load used for washing of raw rice may eventually lead to increase of Arsenic after washing.
13. The other remedial measures to minimize the effect of arsenic in soil-plant system are reiterated as under:



- a) *Boro Rice requiring more groundwater should be replaced with other suitable and less water demanding crops.*
- b) *Growing of relatively arsenic tolerant rice varieties Mukdashri (IET 21845), IET 1444, Gotrabhog, Nayanmoni and Shatabdi.*
- c) *Direct seeded rice using drum seeder and seed drill with reduced ground water use* d) *Preference to growing non-edible and leguminous crops during dry season in the hotspot areas*
- e) *Biochar application: Biochar has been reported to reduce the Arsenic availability and bioaccumulation in rice grains. Biochar has also been reported to improve soil fertility and mitigate methane (CH<sub>4</sub>) emissions from rice cultivation.*
- f) *Agronomical interventions: Application of silicate fertilizers, silica-rich rice husk, and management of irrigation water have been found to reduce the availability of arsenic to rice grain.*
- g) *Storing of arsenic contaminated groundwater in ponds and subsequent dilution with rainwater. Also conjunctive use of ground and surface water to dilute the arsenic content.*
- h) *Promote recharge of groundwater with rainwater free of arsenic*
- i) *Increased use of FYM and other manures + green manure crops* j) *Cost-effective phytoremediation employing hyper-accumulating plant/microbial spp like brake fern (Pteris vittata), water hyacinth (Eichornia crassipes), blue green alage(BGA), Croton sparsiflora etc.) hold promise in detoxification of arsenic from soils and aquatic systems."*

14. It is submitted that while issue is of utmost importance for the environment and public health and considering the prevailing conditions, it would also require unprecedented mass movement to ensure dissemination of information, educating and sensitizing the farmers and other stakeholders in country to contribute to reduction of the arsenic contents in rice.



- 15. That the Answering Respondent reserves its right to add, amend and file the revised affidavit if so instructed or directed by this Hon'ble Tribunal.
- 16. That the Contents of the above stated paras are true and correct to the best of my knowledge and nothing material has been concealed therefrom.

*[Signature]*  
 DEPONENT  
 हरीश नायर / HAREESH NAIR  
 विधी सलाहकार / Legal Adviser  
 भारतीय कृषि अनुसंधान परिषद / ICAR  
 कृषि भवन नई दिल्ली-110001  
 Krishi Bhawan, New Delhi-110001

VERIFICATION:

Verified at New Delhi on 11 2 AUG 2025 day of 2025 that the contents of the above Counter-Affidavit are true and correct to the best of my knowledge as derived from the official records maintained by the Respondent No. 1 and nothing material has been concealed therefrom.

*I identified the Deponent who has signed in my presence*



*[Signature]*  
 DEPONENT  
 हरीश नायर / HAREESH NAIR  
 विधी सलाहकार / Legal Adviser  
 भारतीय कृषि अनुसंधान परिषद / ICAR  
 कृषि भवन नई दिल्ली-110001  
 Krishi Bhawan, New Delhi-110001

**CERTIFIED THAT DEPONENT**

Sh./Ms..... *Hareesh* Age.....  
 S/o, W/o, D/o.....  
 R/o.....  
 Identified by.....  
 has seen.....  
 On.....  
 contents of.....  
 & explained.....  
 his/her knowledge.

*[Signature]*  
 NITENDRA KUMAR, NOTARY PUBLIC  
 Govt. of India, DELHI

# Annexure R-1

Times Now | Times Now Navbharat | Zoom | ET | Theme | LIVE TV

## TIMES NOW



La Encei an top du w Li e Zoom v City  
te tainm di or sin or est e Watch ir pton  
et ent a to app Id vlc c list al ow

MUTUAL FUNDS *Sahi Hai*

DIET

## Arsenic In Food: Should You Wash Rice Before Cooking It?

Authored by: TN Health Desk Updated Mar 31, 2024, 23:34 IST

Experts usually recommend rinsing your rice before cooking as it helps not only make it fluffy and less starchy but also gets rid of poisonous arsenic. Read on to know more.



Subscribe to our daily Lifestyle Newsletter!

Enter your email address  SUBMIT

Related News >>



Rinsing your rice makes it look fluffier and tastier, it also helps remove topical starch

Google+ FOLLOW US | WhatsApp FOLLOW US | Facebook | X | LinkedIn | WhatsApp

Rice is a staple food for millions of people across the world. Packed with health benefits, rice is a super-rich source of carbohydrates - the body's main fuel source which keeps you energized and satisfied and is important for fueling exercise. It is also an excellent source of

### Joha To Kala Namak: 8 GI-Tagged Rice Varieties In India

7 South Indian Gravies That Goes Best With Red Rice



Spicy Biryani To Fresh Salad: 7 Jackfruit Dishes To Try This Season



many nutrients, including fibre, manganese, selenium, magnesium, and B vitamins.

But before you throw your rice in a pot of water, is it healthiest to wash it first? According to experts, whether long- or short-grained, white or brown - washing rice should be a prerequisite for preparing this common dish.

### **Why should you wash your rice before cooking?**

However, there are many reasons why people do so. Experts have always sparked concerns over the presence of arsenic, which can easily be washed away by soaking.

According to studies, arsenic is found naturally in soil and water and is considered toxic.

Apart from taste reasons – as many say rinsing your rice makes it look fluffier and tastier, it also helps remove topical starch. And when this starch is reduced, the rice grains would be less clumpy.

Rinsing helps wash away undesirable materials including any leftover debris like dirt or small pebbles, which can be detrimental to your health. Also, washing helps remove microplastics from food packaging.

### **How does arsenic affect?**

Woman With the Biggest Hernia Cannot Be Operated; Here's Why



What is the BOLT Method to Check How Efficiently Your Lungs Are Working?



171  
According to experts, arsenic naturally occurs in water, soil, and rocks, but its levels may be higher in some areas than others. It easily enters the food chain and accumulates in significant amounts in both animals and plants, some of which are eaten by humans.

As a result of human activities, arsenic pollution has been rising.

The main sources of arsenic pollution include certain pesticides and herbicides, wood preservatives, phosphate fertilizers, industrial waste, mining activities, coal burning, and smelting.

Arsenic easily drains into groundwater - heavily polluted - and from there, finds its way to water supplies that are used for crop irrigation and cooking.

Rice is particularly susceptible to arsenic contamination because it is grown in flooded fields, and it absorbs more arsenic from water and soil compared to other common food crops.

### **Symptoms of arsenic poisoning**

A few signs and symptoms of arsenic toxicity include:

- Red or swollen skin
- Eruption of new warts or lesions
- Abdominal pain
- Nausea and vomiting
- Diarrhoea
- Abnormal heart rhythm
- Muscle cramps

- Tingling of fingers and toes
- Darkening of skin
- Constant sore throat
- Persistent digestive issues

According to the World Health Organization, long-term symptoms tend to occur in the skin first and can show up within five years of exposure. Cases of extreme poisoning may lead to death.

### **Things to remember**

Experts say regardless of whether you decide to rinse your rice before cooking it, there are a few important things you should keep in mind for healthy, tasty rice-making.

- To limit arsenic exposure, wash the rice often.
- When you do include rice in your diet, experiment with various preparation methods. While boiling rice, add a low-sodium bone broth for extra protein and nutrition.
- If you want to lose weight, eat whole-grain brown rice sometimes. According to nutritionists, brown rice contains more fibre and protein than white rice, making it a healthier choice.

### **Latest News >>**

---

173



**BUSINESS ECONOMY**

India's Export Strategy Shifts to 50 Nations to Counter US Tariff Impact



**INDIA**

What Is Talaq-e-I It's The Next Big In SC After Triple



**TN HEALTH DESK** AUTHOR

Professionals & enthusiasts who write about lifestyle and health in all their vibrancy.[View More](#)

News / Health / [Diet](#)

*End of Article*

Follow us :

DOWNLOAD APP



**Top Trends**

- > Kerala Lottery
- > 8th Pay Commission
- > Saurashtra Jobs News
- > India Tariffs
- > Krishna Janmashtami 2025
- > Cristiano Ronaldo Engagement
- > Citroen C3X India Launch
- > Ganesh Chaturthi Date 2025
- > UPSC Mains Admit Card
- > Rajasthan HC Stray Dogs
- > Sachin Tendulkar

**Top Searches**

- > Weather Today
- > Times Now Samarth
- > India Health Awards
- > Happy Birthday Wishes
- > Fixed Deposit
- > Live TV
- > Subscribe Newsletter
- > Gold Price Today
- > Holidays in India
- > Festivals
- > Passport
- > PAN Card
- > Driving Licence
- > Voter ID

**Entertainment**

- > Coolie Vs War 2
- > Cristiano Ronaldo Engagement
- > Dhadak 2
- > Jolly LLB 3 Teaser
- > Latest OTT Releases
- > Pooja Hegde
- > Janhvi Kapoor
- > Param Sundari
- > Disha Vakani
- > Aamir Khan

**Lifestyle**

- > Nag Pancham 2025
- > India Longest Vande Bharat Express
- > Independence Day 2025
- > Cristiano Ronaldo
- > Kajari Teej 2025
- > Red Fort
- > 10 Romance Books
- > 6 Life-Changing Books
- > US Visa
- > Kali Jayanti 2025

174

> Mrunal Thakur

> Aadhaar Card

> Mithun

> Fuel Price in India

> Kashmiri Nurse Murder

> Stray Dog

> Rahul Gandhi

### Company

> About Us

> Contact Us

> Advertise with us

> Regulatory

> Terms & Conditions

> Privacy Policy

> Disclaimer

> Complaint Redressal

> Syndication And Partnerships

© 2025 Bennett, Coleman & Company Limited

  
[True Copy]

Item No. 06

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 538/2024

News item titled "Arsenic in Food: Should you wash rice before cooking it" appearing in Times Now dated 31.03.2024

Date of hearing: 16.05.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON  
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

**ORDER**

1. This original application is registered *suo-motu* on the basis of the news item titled "Arsenic in Food: Should you wash rice before cooking it" appearing in Times Now dated 31.03.2024.

2. The matter relates to the presence of arsenic in rice as warned by experts that can be poisonous for human body. As per the article, arsenic found naturally in soil and water is considered toxic and can be easily washed away by soaking and washing the rice properly.

3. The article states that arsenic naturally occurs in water, soil and rocks, but its levels may be higher in some areas than others. It easily enters the food chain and accumulates in significant amounts in both animals and plants, some of which are eaten by humans. The article alleges that as a result of human activities, arsenic poisoning has been rising. The main sources of arsenic pollution include certain pesticides and herbicides, wood preservatives, phosphate fertilizers, industrial waste, mining activities, coal burning and smelting.

4. The article states that rice is particularly susceptible to arsenic contamination because it is grown in flooded fields, and it absorbs more arsenic from water and soil compared to other common food crops. It states that as per World Health Organisation, long term symptoms of arsenic poisoning tend to occur in the skin first and can show up within five years of exposure. Cases of extreme poisoning can even lead to death.
5. The news item raises substantial issue relating to compliance of the environmental norms and implementation of the provisions of scheduled enactment.
6. Power of the Tribunal to take up the matter *suo-motu* has been recognized by the Hon'ble Supreme Court in the matter of "*Municipal Corporation of Greater Mumbai vs. Ankita Sinha & Ors.*" reported in 2021 *SCC Online SC 897*.
7. Hence, we implead the following as respondents in this matter:
  - (i). Central Pollution Control Board, through its Member Secretary, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
  - (ii). Ministry of Agriculture and Farmers Welfare, through its Secretary, Krishi Bhawan, New Delhi-110001
  - (iii). Ministry of Environment, Forest and Climate Change, through its Secretary, India Paryavaran Bhawan, Jorbagh Road, New Delhi-110003.
8. Let notice be issued to the above respondents for filing their response at least one week before the next date of hearing.

9. List on 02.09.2024.

Prakash Shrivastava, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

May 16, 2024  
OA No. 538/2024  
HB

  
[True Copy]

Item No. 18

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 538/2024

News item titled "Arsenic in Food: Should you wash rice before cooking it" appearing in Times Now dated 31.03.2024

Date of hearing: 16.12.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON  
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Respondents: Ms. Tanisha Samanta & Mr. Balendu Shekhar, Advs. for CPCB  
Mr. Gigi. C. George, Adv. for Ministry of Agriculture & ICAR

**ORDER**

1. Respondent no.2-Ministry of Agriculture and Farmers Welfare through its Secretary has filed the reply dated 12.12.2024 stating that there are two departments under Ministry of Agriculture i.e. Department of Agriculture and Farmers Welfare and, secondly, Department of Agriculture Research and Education and the two departments are under two different secretaries. Reply says that inputs have been received from ICAR and ICAR has also given certain suggestions which are disclosed in the report of respondent no.2 as follows:

*"5. That the Department of Agriculture and Farmers Welfare sought inputs from the ICAR regarding issue involved in the present Original Application and the inputs received from them as follows:*

- a. That in India States of West Bengal and Bihar are reported to be most affected by Arsenic contamination of ground water. Arsenic concentration in ground water generally associated with geogenic sources and is a concern to soil-plant-animal-human systems. Irrigation by contaminated groundwater is the major route for Arsenic enter into agricultural soil which ultimately leads to its entry into the food chain. Since rice is a water intensive crop this leads to significant buildup of arsenic in rice grain. Transport of Arsenic contaminated rice grain grown in Arsenic endemic areas to non-endemic sites and consequent dietary intakes will also spread aresnic exposure in the non-endemic population.*

b. That the distribution of arsenic content in plant parts generally followed the order: root>stem>leaf>economic produce. The edible parts of leafy (spinach, fenugreek etc.) and underground vegetables (beet, radish etc.) contained much higher arsenic as compared to vegetables with fruit as edible part (Brinjal, Beans, Ladies Finger, Tomato etc.). In general, fruit/grain of plants showed less accumulation of arsenic compared to root, stem and leaf.

6. That the ICAR suggests following remedial measures to minimize the effect of arsenic in soil-plant system.

- a) Boro Rice requiring more groundwater should be replaced with other suitable and less water demanding crops.
- b) Growing of relatively arsenic tolerant rice varieties Muktaashri (IET 21845), IET 1444, Gotrabhog, Nayanmoni and Shatabdi.
- c) Direct seeded rice using drum seeder and seed drill with reduced ground water use
- d) Preference to growing non-edible and leguminous crops during dry season in the hotspot areas
- e) Biochar application: Biochar has been reported to reduce the Arsenic availability and bioaccumulation in rice grains. Biochar has also been reported to improve soil fertility and mitigate methane (CH<sub>4</sub>) emissions from rice cultivation.
- f) Agronomical interventions: Application of silicate fertilizers, silica- rich rice husk, and management of irrigation water have been found to reduce the availability of arsenic to rice grain.
- g) Storing of arsenic contaminated groundwater in ponds and subsequent dilution with rainwater. Also conjunctive use of ground and surface water to dilute the arsenic content.
- h) Promote recharge of groundwater with rainwater free of arsenic
- i) Increased use of FYM and other manures + green manure crops
- j) Cost-effective phytoremediation employing hyper-accumulating plant/microbial spp like brake fern (*Pteris vittata*), water hyacinth (*Eichornia crassipes*), blue green alga (BGA), *Croton sparsiflora* etc.) hold promise in detoxification of arsenic from soils and aquatic systems.”

2. Counsel for respondent no.2 has submitted that Secretary of Department of Agriculture Research and Education is also the DG of ICAR, therefore, for effective assistance ICAR be impleaded as respondent.

3. Keeping in view the submission made above, the following is impleaded as respondent no.4.

Respondent No.4-Indian Council of Agricultural Research  
(ICAR)through Director-General.

4. Mr. Gigi.C. George, Learned Counsel accepts notice on behalf of newly added respondent no.4 and seeks four weeks' time to file the reply.

5. List on 15.04.2025.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

December 16, 2024  
Original Application No. 538/2024  
JG..

  
[True Copy]



Sahib Patel &lt;adv.sahibpatel@gmail.com&gt;

---

**Service : Counter Affidavit filed on Behalf of the Respondent No. 4 (ICAR) in OA 538 of 2024 before the National Green Tribunal**

1 message

---

**Sahib Patel** <adv.sahibpatel@gmail.com>

Tue, Aug 12, 2025 at 9:01 PM

To: secy-agri@gov.in, secy-moef@nic.in, mscb.cpcb@nic.in

Cc: law.aashish@gmail.com

Dear Sir/Mam,

Please find attached Counter Affidavit filed on behalf of the Respondent No. 4 (ICAR) in above mentioned matter.

Kindly accept the Proof of Service of the same.

For Mr. Ashish Tiwari, Advocate

[Counsel of the Respondent No. 4- ICAR]

Regards,

Sahib Patel, Advocate

B-3, Sagar Apartments,

Tilak Marg, New Delhi- 110001

**Counter Affidavit R4 ICAR NGT Final.pdf**

5682K