

# **National Conference on**



# SYSTEM OF GROP INTENSIFICATION

for

Climate-Smart, Water and Nutrient-Efficient Agriculture
4-5 September 2025



**Organized by** 



### **Odisha Chapter**

















**ICAR-Indian Institute of Water Management** 

Chandrasekharpur, Bhubaneswar-751023, Odisha http://iiwm.res.in

## **National Conference in Brief**

### **Key Dates**

Submission of Abstract	15 August, 2025
Issue of Acceptance	20 August, 2025
Receipt of Registration Fee	20 August, 2025
Receipt of Full-Length Papers	20 August, 2025
Request for Accommodation	20 August, 2025
Willingness for Field Visit	20 August, 2025

### Conference Venue

# Pipul Padmaja Premium Hotel, Bhubaneswar R **ICAR-IIWM** Chandrasekharpur, Bhubaneswar-751023, Odisha

## Organizing Secretariat

Dr. A. Sarangi, Organizing Chairman Dr. A.K. Thakur, Organizing Secretary Dr. K.K. Bandyopadhyay, Co-organizing Secretary Dr. R.K. Mohanty, Co-organizing Secretary Dr. D. Ghosh, Treasurer E-mail ID of the Conference 2025 secretaryncsci2025@gmail.com Mobile: 94372 05455; 94371 43400; 74286 47361

# National Conference on System of Crop Intensification (NCSCI-2025) for Climate-Smart, Water and Nutrient-Efficient Agriculture

#### **About Conference**

Over the last three decades, the System of Rice Intensification (SRI), an agroecological method for growing rice, has consistently demonstrated higher grain yields with less water use, while also enhancing climate resilience. This approach has enabled the fulfillment of several Sustainable Development Goals (SDGs) across more than sixty countries, benefiting farming communities. The ideas and methods of the SRI are now being extended and adapted to many other crops, including wheat, maize, millets, sugarcane, tef, mustard, legumes, vegetables, and even spices, and are broadly known as the System of Crop Intensification (SCI). The experience with diverse crops in varying agroecologies has shown that SCI is more productive, resource-conserving, climate-resilient, and sustainable. In addition to HYVs, SCI has also been demonstrated to increase the yield of local crop varieties.

Millets are nutritious, climate-resilient crops that can thrive in arid and semi-arid regions with minimal inputs. The year 2023 was celebrated as the International Year of Millets with the theme 'Millets: From Farm to Plate' to raise global awareness about the nutritional and environmental benefits of millets. India played a key role in advocating for the Millets, supported by over 70 countries. SCI principles have also been adopted for millet cultivation, known as the System of Millet Intensification (SMI), to improve production and resource use efficiency. The Government of Odisha has introduced SMI as an improved agronomic practice for higher production in their flagship program, 'Shree Anna Abhiyan', in consultation with academia and civil society organizations.

There was a gradual, yet somewhat quiet, adaptation of these SRI/SCI/SMI principles and methods, as well as other agroecological practices, within India and around the world, particularly in Asian countries. Many of these initiatives were inspired and encouraged by various efforts by many institutions and individuals who came together in organizing national/international conferences on SRI/SCI (e.g., Hyderabad-2006, Agartala-2007, Coimbatore-2008, Hyderabad-2022 and many other workshops).

However, in previous conferences and workshops, more focus was given to SRI experience, with limited participation from other crops, such as SMI/Guli Ragi and other crops. Therefore, it is necessary to highlight the experiences with millets and other agroecological practices, particularly recent advances in water management under these cultivation practices. The mainstreaming of these experiences, along with the demand for appropriate policy support, will enhance food and nutrition security under a changing climate scenario, thereby facilitating the achievement of the SDGs. Advocacy for these developments in farmers' fields is urgent, and consistent efforts are needed to bring together practitioners, researchers, and policymakers to achieve the objectives of higher productivity and profitability.

The proposed National Conference, NCSCI-2025, builds upon previous initiatives and experiences. It will provide a platform to share the advances in the knowledge gain and knowhow of the SCI/ SRI/ SMI practices and other agroecological practices, *viz.*, natural farming, organic farming, conservation agriculture in the changing climate scenario for improved water-efficient and nutrient-secure agriculture for the benefit of farmers.

#### **Conference Themes**

Theme 1	Present Status and Future Prospects of the System of Crop Intensification (SCI) [SRI, SMI, SWI, etc.]
Theme 2	Breeding of Cultivars, Land Races, Ideotypes, Pest and Disease Dynamics in SCI
Theme 3	Resource Use (Water, Nutrients, Energy, Labour etc.) and Enhancing Input Use Efficiency
Theme 4	Mechanization and Value Addition in SCI
Theme 5	Adoption and Socio-economic Impacts of SCI
Theme 6	Policy Guidelines for Scaling-up of SCI

The abstract of the paper should not be more than 300 words and should clearly indicate the presenting author along with the affiliations of other co-authors. The abstract/ extended summary should be typed in Times New Roman, in standard font, with double spacing. Font size for different parts of the extended summary: Title- 14 points bold, Authors- 12 points, Institute name – 11 points italics. Content-11 points. Heading in sentence case. Download a Microsoft Word template to prepare the extended summary. The entire Extended Summary, including text, figures, and tables, must be in MS Word document only. All Extended Summaries should be mailed to secretaryncsci2025@gmail.com

#### **Presentation Format**

#### **Plenary Lectures**

Globally and nationally recognized scientists, policymakers, and administrators will be invited to deliver special lectures on topics related to the System of Crop Intensification and policy, farming systems research, climate change, resource conservation technologies, and resource use efficiency, among others. They will be requested to provide 2-3-page write-up of their presentation along with brief biodata for inclusion in the Conference Proceedings. Plenary lectures will be of 30 minutes duration.

#### **Invited Lead Lectures**

These would offer an insight into the various themes/sessions of the Conference. Technical Committees constituted for the conference will identify speakers. Each lecture will be 15 minutes long, followed by a discussion. Lead speakers of the Conference will be requested to provide a 2-page (approximately 2000 words) summary of their presentation and a brief biodata for inclusion in the Conference Proceedings. Full-length papers will be published in the Post-Conference Proceedings.

#### **Panel Discussion**

Recognized scientists/ policy makers, industrialists, and farmers will be invited to discuss the present status of SCI in different crops and technologies to mitigate climate change. The panel discussion will feature 5-6 panellists and last approximately one hour and thirty minutes.

#### **Lightning Talk**

All delegates will have the opportunity to present their research findings through a Lightning talk on a physical/ digital platform. Lightning talk will be arranged theme-wise. This would provide an opportunity for participants to present their work more informally, with

personalized interaction among other participants. You can add audio or video, web pages, images, forms, links, documents, transcripts, and social media feeds into a single interactive presentation viewer. The lightning talk will be 5 minutes. The best talk of each scientific theme will be awarded a certificate.

#### **Farmer Scientist Interaction**

Sessions of farmer-scientist interaction will be arranged to identify problems and suggest strategies for scaling up technologies, involving participating farmers, policymakers, and researchers.

#### **Extended Summary**

Delegates will submit an Extended Summary of their work by August 20, 2025. These extended summaries will be scrutinized and published in the Conference Proceedings. Extended summaries submitted without following the guidelines will not be accepted for publication.

The extended summaries of all the papers will be published and provided to the delegates as a soft copy on a pen drive during the conference. The Extended summaries must be received by August 20, 2025. The guidelines for the extended summary are provided separately in this circular. A soft copy of the extended summary prepared in a Microsoft Word doc. May be emailed to the organizing secretary emailsecretaryncsci2025@gmail.com

#### **Poster Presentations**

All delegates will have the opportunity to present their research papers through poster presentations. This would provide an opportunity for participants to present their work more informally, with personalized interaction among other participants. The organisers will provide material for fixing the posters. The size of the poster should be  $5 \text{ ft } \times 3 \text{ ft}$ .

#### **Exhibition**

An exhibition will be organized at the venue during the conference. The exhibition area will be the focal point of the conference, and the programme is structured to maximize the opportunity for delegates to visit this area. It also has limited access to non-delegates. Space for the exhibition can be reserved by contacting the organizers. Exhibitors will receive a 9 ft x 9 ft space within the Exhibition area, featuring three sidewalls, carpet, one table, two chairs, one standard electrical power point, two spotlights, and a dustbin. An amount of **Rs. 25,000/(Rupees twenty-five thousand only) per stall shall be charged,** which also includes the registration fee for two persons for the conference, and is payable by **August 20, 2025**. The bank details are provided in the brochure.

#### Guidelines for the Preparation of an Extended Summary

- The Extended Summary should not exceed threedouble-spaced, quarter-size pages, including tables and references. Authors should ensure scientific and grammatical correctness of the Extended Summary as it will be published as such without any editing.
- The title should be short, specific, and phrased to identify the content of the article.
- By-line should include the author's name(s) {name of the person presenting the paper to be underlined}, and place of work including the name of the university/ organization (Full form-no abbreviation), state, pin code, and the country. In case the present address of any of the authors is different, it should be given with the complete address as a footnote.

- The extended summary should begin with a brief introduction and objectives, followed by a description of the methodology, results, a conclusion, and a list of references. The headings of Methodology, Results, Conclusion, and References may be given in sentence case in bold. No heading of introduction is required.
- All references appearing in the text should appear at the end of the article and vice-versa. The reference should include the names of all authors, year, full title of the article, full name of the publisher, place, and year should also be given. For proceedings of symposium/ seminar, etc., the title of the paper, title of the seminar/ symposium, place, date, and pages should appear along with the names of all authors and the year.
- The number of tables, figures, and references should be kept to a minimum. There should not be duplication of data and figures. Figures should be comprehensive and nicely printed with clear legends. The figure number and the Table should not have more than six columns.
- No symbols for the treatments to be used. Author(s) must follow standard abbreviations. All weights and measurements must be in the International System of Units (SI).
- The Extended Summary should be typed in Times New Roman, standard font, with double spacing. Font size for different parts of the extended summary: Title-14 points bold, Authors- 12 points, Institute name 11 points italics. Content-11 points. Heading in sentence case.

The last date of the extended Summary submission is August 20, 2025.

#### Registration

Google form link: During registration, you need to upload a copy of your payment confirmation as proof.URL:https://docs.google.com/forms/d/e/1FAIpQLScCxyTpF\_v\_-6hLh2CTATG2 nLKsUXtOsFUjn74OM0MI29O3hQ/viewform?usp=preview

#### **Registration charges**

Physical Participants (₹)		
Scientists / Researchers	₹ 7000/- (after due date 8000/-)	
Students / Research Scholars	₹ 4000/- (after due date 5000/-)	
ISWAM Members	₹ 6000/- (after due date 7000/-)	
<b>Industry and Private Organizations</b>	₹ 14000/- (after due date 15000/-)	

*Everybody has to register to participate in the conference* 

#### Who can participate?

Scientist/ Working professionals in agricultural and allied sectors/ NGOs

Students/research scholars

SCI adopting Farmers

Industry and Private Organizations involved in SCI

The conference will be open only to registered participants.

The registration fee for participants will cover participation in all scientific sessions, the proceedings, and other soft and printed materials of the meeting, as well as the welcome reception, lunch, dinner, and tea/coffee during lecture breaks. It does not include the accommodation charges of the delegates.

#### **Payment Details**

Name of Beneficiary: Orissa Chapter of Indian Society of Water Management

Name of Bank: Punjab National Bank

Bank Branch Address: Chandrasekharpur, Bhubaneswar-751016

Bank Account Number: 2977002100008453

IFS Code: PUNB0297700

#### **General Information**

LANGUAGE: The official language of the Symposium will be English.

TAXI: Taxis are available 24 hours a day by telephone/ online/ mobile app. Air-conditioned (AC) taxis are available at the domestic terminals of Biju Patnaik International Airport. In addition, there are prepaid counters at the airport for travel to any part of the city. The distance from the airport to the venue is only 12 km.

#### Facilities and Fee for Sponsors and Exhibitors

#### Advertisement

In the Souvenir of the Conference, which will contain a message from a VIP and articles from renowned scientists, policymakers, and administrators, there is a provision for companies to place advertisements. The souvenir is a significant publication of the conference and is kept by delegates for an extended period, serving as a reference book. Interested companies may contact the organizers to give their advertisements. The rates for the advertisement are as follows.

#### **Advertisement Tariff**

Location	Charges (₹)
Back cover page	50,000
Inner back cover	30,000
Full page insertion	20,000
Half-page insertion	10,000

#### Payment should reach by 20 August, 2025

The registration fee doesn't include accommodation charges. Limited accommodation is available in government guest houses. Most of the delegates are requested to book hotels at a reasonable cost nearby. A wide range of accommodations, varying from 5-star hotels to guesthouses, is available.

Hotel	Tariff	Contact person
Pipul Padmaja Premium	₹ 4000-5000	Nirmal Mishra, Mob.: 7504558057
Suryansh Hotel	₹ 4000-5000	Nrusingh Charan Swain, Mob.: 9338016609
Hotel Ginger	₹ 3500-5000	Mohammad Mustafa, Mob.: 9238303497
Swosti Premium	₹ 6500-7800	Sanghamitra Mohanty, Mob.: 8594999002
Lemon Tree	₹ 7000- 7500	Mr. Susant Sarangi, Mob.: 9124158110

#### **About Bhubaneswar**

Bhubaneswar, the capital city of Odisha State is also called 'Temple City of India'. Its population is more than 13 lakhs, and the agglomerated area is 1110 sq. km.

Language: The official language of Bhubaneswar is Odia but there are various other regional languages spoken by the people of the state of Odisha. English is used for official and commercial purposes. Most people on the streets canunderstand and converse in Hindi.

Time Zone: India has a single time zone. It is 5:30 hours ahead of GMT, 4:30 hours ahead of the Australian Eastern Standard time.

Climate: Bhubaneswar experiences a warm and humid climate. Temperature in Bhubaneswar ranges from 16 °C to 32 °C

#### Field Visits, Excursion and Tour

Organizers will arrange visits to experimental fields and Research Institutes located in Bhubaneswar and Cuttack.

- Visit to Puri, Konark and Dhauli
- Visit to Chilka Lake

The final programme of this field will depend on the willingness received from the delegates. All these visits will be arranged on a payment basis to all delegates on a first-come, first-served basis.

#### Places of attraction



Lingaraj Temple was primarily constructed by King Jajati Keshari of the Somavamsi dynasty in the 11<sup>th</sup> century. It is one of the oldest and most revered temple in Odisha.



Nandankanan zoological park was established in 1960 and open to public in 1979. It is the first zoo in the world to breed white tiger and melanistic tiger.



The caves denoted to Hindu gods Vishnu and Shiva from the early years of third century CE to fifth century CE. During the reign of emperor Kharavela of the Kalinga dynasty. These caves in Odisha are primarily associated with Jainism.



The Jagannath temple is a Hindu temple dedicated to the god Jagannath a form of Vishnu in Hinduism. It is located in Puri in the state of Odisha. It is famous for its unique architecture, vibrant festival, and annual rath yatra.



The Konark Sun Temple, a 13<sup>th</sup> century architectural marvel in Odisha, India, is famous for its unique design, resembling of colossal chariot of the sun god Surya. Built during the reign of King Narasimhadeva of the Eastern Ganga dynasty



Chilika Lake is the largest brackish water lagoon. Covering an area of over 1100 sq.km. It is a coastal lagoon located in Odisha, India, near the mouth of the Daya river.

#### **National Advisory Members**

Name	Designation & Address
Dr. S.K. Chaudhari	DG, FAI, New Delhi
Dr. A.K. Nayak	DDG (Natural Resources Management), ICAR, New Delhi
Dr. D.K. Yadav	DDG (Crop Science), ICAR, New Delhi, India
Dr. Rajbir Singh	DDG (Agricultural Extension), ICAR, NewDelhi
Dr. Ch. Sreenivasa Rao	Director, ICAR-IARI, New Delhi
Dr. P. K. Roul	VC, OUAT, Bhubaneswar
Dr. A.Velmurugan	ADG (SWM), ICAR, New Delhi
Dr. Sumant Vyas	Director (Acting), ICAR-CAZRI, Jodhpur
Dr. K. Sami Reddy	Director, ICAR-NIASM, Baramati
Dr. C.R. Mehta	Director, ICAR-CIAE, Bhopal
Dr. S.K. Purbey	Director (Acting), ICAR-MGFRI, Motihari
Dr. Manoranjan Mohanty	Director, ICAR-IISS, Bhopal
Dr. Arjamadutta Sarangi	Director, ICAR-IIWM, Bhubaneswar
Dr. Anup Das	Director, ICAR-RCER, Patna
Dr. Parveen Kumar	Director, ICAR-CCARI, Goa
Dr. V.K. Mishra	Director, ICAR-RCNEH, Umiam
Dr. Sunil Kumar	Director, ICAR-IIFSR, Modipuram
Dr. V.K. Singh	Director, ICAR-CRIDA, Hyderabad
Dr. M. Madhu	Director, ICAR-IISWC, Dehradun
Dr. R.K. Yadav	Director, ICAR-CSSRI, Karnal
Dr. GAK Kumar	Director (Acting), ICAR-NRRI, Cuttack
Dr. R.M. Sundaram	Director, ICAR-IIRR, Hyderabad
Dr. (Mrs) C. Tara Satyavathi	Director, ICAR-IIMR, Hyderabad
Dr. Ratan Tiwari	Director, ICAR-IIWBR, Karnal
Dr. (Ms.) Mridula Devi	Director, ICAR-CIWA, Bhubaneswar

Director, ICAR-CIFA, Bhubaneswar	
PD, WTC, New Delhi	
President, ISWAM	
Secretary, ISWAM	
Treasurer, ISWAM	
Professor, Division of Agricultural Engineering, IARI,	
New Delhi	
Former Professor, OUAT	
Former Dean (Agriculture), OUAT	
Former Dean (Agriculture), OUAT	
Former Dean (Agriculture), OUAT	
IRMA, Anand	
PRAN, Bihar	
PSI, Dehradun	
Member, Assam Agriculture Commission	

### International Advisory Members

Name	Designation and Address	
Dr. Norman Uphoff	Professor Emeritus of Government and International Agriculture;	
	Senior Advisor, SRI-Rice, International Programs/ CALS, Cornell	
	University, Ithaca, NY	
Dr. F.C. Zampaolo	Director, SRI-2030, UK	
Dr. Lucy H. Fisher	Associate Director for Communications, SRI-Rice, Cornell	
	University, Ithaca, New York, USA	
Dr. Biksham Gujja	Former Head, Water Programme, WWF- International and Founder, AgSRI	
Dr. Willem Stoop	STOOP Consult: R and D for Tropical Agriculture, Driebergen, The Netherlands	
Prof. Amir Kassam	Visiting Professor, School of Agriculture, Policy and Development,	
	University of Reading, UK	
Dr. Bancy Mati	Director, WARREC, Jomo Kenyatta University of Agriculture and	
·	Technology, Nairobi, Kenya	
Dr. Dominic Glover	Research Fellow, Institute of Development Studies, Brighton, UK	
Dr. Harro Maat	Associate Professor, Wageningen Agricultural University, The	
	Netherlands	
Dr. Anizan Isahak	Faculty of Science and Technology, Universiti Kebangsaan, Selangor, Malaysia	
Dr. Abha Mishra	Former Director, Asian Centre of Innovation for Sustainable	
	Agriculture Intensification (ACISAI), Thailand	
Dr. Iswandi Anas	Head of Soil Biotechnology Division, Bogor Agricultural University,	
	Bogor, Indonesia	
Ms. Le Minh	Global Agriculture Advisor, Oxfam America, based in Vietnam	
Dr. R. Uprety	Senior Agriculture Extension Officer, Regional Agriculture	
	Directorate, Biratnagar, Nepal	

Dr. Ravi Chopra	Founder and former Director, People's Science Institute, Dehradun	
Mr. Shuichi Sato	Secretary of Japan Association for SRI (J-SRI), Tokyo, Japan	
Dr. Febri Doni	Assistant Professor, Padjadjaran University, Indonesia	
Dr. Anizan Isahak	President SRI -Mas, Malaysia	
Dr. Zhu Defeng	Professor, Research and Development Centre of Rice Cropping Technology (CNRRI), Hangzhou, P.R. China	
Dr. Ram B. Khadka	Research Scientist, NARC-National Plant Pathology Research Center, Nepal	

#### **National Organizing Committee**

Dr. A.K. Thakur, ICAR-IIWM, Bhubaneswar Mr. Sabyasachi Das, RRA Network, Hyderabad Mr. Prabhakar Adhikari, PRAGATI, Koraput Mr. Jacob Nellithanam, CISF, Raipur Mr. Ravindra A., WASSAN, Hyderabad Dr. R.M. Kumar, ICAR-IIRR, Hyderabad

#### **Local Organizing Committee**

Dr. A. Sarangi	Organizing Chairman	Director, ICAR-IIWM, Bhubaneswar
Dr. A.K. Thakur	Organizing Secretary	Principal Scientist, ICAR-IIWM,
		Bhubaneswar
Dr. K.K. Bandyopadhyay	Co-Organizing Secretary	Principal Scientist, ICAR-IIWM,
		Bhubaneswar
Dr. R.K. Mohanty	Co-Organizing Secretary	Principal Scientist, ICAR-IIWM,
·		Bhubaneswar
Dr. D. Ghosh	Treasurer	Senior Scientist, ICAR-IIWM
Dr. R.K. Panda	Member	Program Leader, ICAR-IIWM
Dr. S.K. Rautray	Member	Program Leader, ICAR-IIWM
Dr. S.K. Jena	Member	Program Leader, ICAR-IIWM
Dr. S.K. Mishra	Member	Program Leader, ICAR-IIWM
Dr. P. Panigrahi	Member	Principal Scientist, ICAR-IIWM
Dr. R.R. Sethi	Member	Principal Scientist, ICAR-IIWM
Dr. A.K. Nayak	Member	Principal Scientist, ICAR-IIWM
Dr. O.P. Verma	Member	Principal Scientist, ICAR-IIWM
Dr. S. Mohanty	Member	Principal Scientist, ICAR-IIWM
Dr. D.K. Panda	Member	Principal Scientist, ICAR-IIWM
Dr. B.K. Sethy	Member	Principal Scientist, ICAR-IIWM
Dr. D.C. Sahoo	Member	Principal Scientist, ICAR-IIWM
Dr. H.K. Dash	Member	Principal Scientist, ICAR-IIWM
Dr. Ashis Maity	Member	Principal Scientist, ICAR-IIWM

Dr. P.K. Panda	Member	Principal Scientist, ICAR-IIWM
Dr. S. Pradhan	Member	Senior Scientist, ICAR-IIWM
Dr. B.S. Satapathy	Member	Senior Scientist, ICAR-IIWM
Dr. R.K. Jena	Member	Senior Scientist, ICAR-IIWM
Dr. Ankita Jha	Member	Scientist, ICAR-IIWM
Dr. P. Debroy	Member	Scientist, ICAR-IIWM
Dr. Prativa Sahu	Member	Scientist, ICAR-IIWM
Dr. D. Sethi	Member	Scientist, ICAR-IIWM
Dr. Ajit K. Nayak	Member	Scientist, ICAR-IIWM
Dr. Ankhila R Handral	Member	Scientist, ICAR-IIWM
Mr. Ashish Jadhav	Member	Scientist, ICAR-IIWM
Mr. J. Biswal	Member	Sr. FAO, ICAR-IIWM
Mr. S.K. Jena	Member	AAO, ICAR-IIWM
Dr. S.K. Karna	Member	ICAR-IIWM
Mr. J. Nayak	Member	ICAR-IIWM
Mr. R.K. Dalai	Member	ICAR-IIWM
Mr. N.K. Mallick	Member	ICAR-IIWM
Mr. A. Pradhan	Member	ICAR-IIWM
Mr. C.R. Khuntia	Member	ICAR-IIWM
Mrs. S. Singh	Member	ICAR-IIWM
Mr. Chhote Lal	Member	ICAR-IIWM
Mr. B.K. Acharya	Member	ICAR-IIWM
Mr. Anand Gaurav	Member	ICAR-IIWM
Mr. K.K. Sharma	Member	ICAR-IIWM
Mrs. S. Naik	Member	ICAR-IIWM
Mr. T. Rout	Member	ICAR-IIWM
Mrs. M. Padhi	Member	ICAR-IIWM
Mr. B.S. Upadhyay	Member	ICAR-IIWM
Mr. S.C. Das	Member	ICAR-IIWM
Ms. Pooja Uppal	Member	ICAR-IIWM
Ms. D. Chakraborty	Member	ICAR-IIWM
Mr. Balam Dinesh	Member	WASSAN
Dr. Sabarmattee Tikki	Member	SAMBHAV
Mr. S.S. Chaudhary	Member	WASSAN
Mr. S.K. Nayak	Member	WASSAN
Mr. Arbinda Majhi	Member	WASSAN
Mr. Jitu Nayak	Member	WASSAN