

# (TRANS)FORMING SCIENCE

## TOWARDS A TRANSGENDER-INCLUSIVE SCIENCE HIGHER EDUCATION IN INDIA

**Citation**

Datta, S., Mukherjee, D., Gaikwad, P. (2022). (Trans)forming Science: Towards a Transgender-Inclusive Science Higher Education in India, Bengaluru: TESF India, IIHS

**Year of Publication**

2022

This work is published under the CC-BY-NC-SA International 4.0 Licence.



This licence lets others remix, tweak and build upon the text in this work for non-commercial purposes. Any new works must also acknowledge the authors and be non-commercial. Derivative works must also be licenced under the same terms.

This licence excludes the cover images, which are rights reserved to the original artist.

**Research and Writing Team**

Sayantan Datta, Lead Author, TESF India Early Career Fellow; Faculty Teaching Associate, Krea University; Member, Editor and Contributor, TheLifeofScience.com

Debomita Mukherjee, Research Scholar (PhD), Centre for Women's Studies, University of Hyderabad

Prajwal Gaikwad, Research Scholar (PhD), Centre for Women's Studies, University of Hyderabad

**Acknowledgements**

**Funding:** TESF India

**Capacity building:** Anand Grover, Bittu Rajaraman, Grace Banu, Kanmani Ray, Sunil Menon

**Community consultation:** Ayush Gupta, Bishal Kumar Dey, BRC, Ritash, Satendra Singh, Sudarshan Kottai, Suraj Sanap

**Support:** Amir Bazaz, Anisha Shanmugam, Poonam Batra

**Cover background (front and back):** Shreya Sridhar

**Editing:** IIHS Word Lab

**Contact**

[dsayantan@iihs.ac.in](mailto:dsayantan@iihs.ac.in); [sayantan.datta@krea.edu.in](mailto:sayantan.datta@krea.edu.in); [sayantan@thelifeofscience.com](mailto:sayantan@thelifeofscience.com)

**Statutory Declaration**

The views expressed in this document are of the authors, and are not necessarily endorsed by the Transforming Education for Sustainable Futures, India, team or the Indian Institute for Human Settlements.

# **(Trans)forming Science: Towards a Transgender-Inclusive Science Higher Education in India**

## **A Policy Brief**

### **Authors:**

**Sayantan Datta**

TESF-India Early Career Fellow

Faculty Teaching Associate, Centre for Writing and Pedagogy, Krea University

Member, Editor and Contributor, [TheLifeofScience.com](http://TheLifeofScience.com)

**Debomita Mukherjee**

Research Scholar (PhD), Centre for Women's Studies, University of Hyderabad

**Prajwal Gaikwad**

Research Scholar (PhD), Centre for Women's Studies, University of Hyderabad

### **Contact:**

[dsayantan@iihs.ac.in](mailto:dsayantan@iihs.ac.in)

[sayantan.datta@krea.edu.in](mailto:sayantan.datta@krea.edu.in)

[sayantan@thelifeofscience.com](mailto:sayantan@thelifeofscience.com)

*People say that science only cares about the work you do; nothing else really matters; but, that is not correct. We do science with and around people, who have their own biases and privileges.*

*— Abigail Silversmith*

(Ref: Datta 2020)

# Table of Contents

<b>Introduction</b>	<b>5</b>
<b>Educational Rights of Transgender Persons</b>	<b>8</b>
The NALSA v. Union of India Judgement 2014	8
Circulars from the University Grants Commission	8
The Transgender Persons (Protection of Rights) Act 2019	9
Box: Reservations for Transgender Persons in Higher Education	11
<b>Transgender Persons, and Inclusive and Non-Discriminatory Science Education</b>	<b>12</b>
The National Education Policy 2020	12
The Draft Science, Technology and Innovation Policy 2020	14
The Comprehensive Accessibility Guidelines and Standards for Higher-Education Institutions and Universities 2022	15
<b>Conclusions, Recommendations and Critical Interventions</b>	<b>17</b>
General Recommendations	17
Infrastructural Recommendations	19
Curricular Recommendations	20
Policy-Level Recommendations	20
<b>Further Reading</b>	<b>22</b>
<b>References</b>	<b>23</b>

## Introduction

Gender-marginal groups, especially transgender, gender non-conforming, gender non-binary, genderqueer and genderfluid persons, remain underrepresented in the Indian science ecosystem (Kurup et al. 2010; Datta 2020; Datta 2021). This poor representation has been attributed to transgender<sup>1</sup> persons' restricted mobility in and access to gendered institutional spaces, harassment and abuse of both sexual and non-sexual nature, and lack of access to queer- and trans-affirmative healthcare.

Queer and transgender persons also report facing ostracisation in Indian science institutions<sup>2</sup>. Moreover, the general silence around gender and sexuality in seemingly objective and apolitical science spaces, and the fact that science practitioners rarely engage with sociological, anthropological, and political discourses on gender and sexuality leads to a lack of discussion about how gender-marginalised persons negotiate science institutions. It has also been reported that science curriculums – including biology, medicine and psychology curriculums – pathologise and discriminate against queer-trans individuals (Datta 2020; Datta 2021; Datta 2021).

It has also been pointed out that since many transgender, gender non-conforming and gender non-binary persons go by names that are different from their names assigned at birth, there is a risk that a transgender person who changes their name post publication of a paper or after obtaining a degree may lose their academic credibility. In academia in general, and science spaces in particular, publications and degrees are important for academic progress. Transgender persons, therefore, may face impediments in pursuing academic careers without regulations that enable them to affirm their gender without losing their academic credibility (Datta and Agarwal 2020).

Several judicial and legislative interventions have advocated for and attempted to increase access to education – including science education – and employment for transgender persons. While the efforts of these judicial and legislative interventions are laudable, the same cannot be

---

<sup>1</sup> The word “transgender” is used over the course of this document as an umbrella term to refer to diverse gender-marginal groups including but not limited to transgender, gender non-conforming, gender non-binary, agender, genderfluid and genderqueer persons. While the authors of this document understand that not all people would agree with this conflation, we had to take this tough call owing to issues of readability and space. We apologise to those we may have offended.

<sup>2</sup> The word “science” and “science institutions” is used over the course of this document to refer to science, technology, engineering, medicine, mathematics, psychology and allied disciplines, and institutions where significant teaching and/or research in these disciplines take place respectively.

said for their implementation. Further, these policies are hardly built through community-consultation processes.

There is, therefore, an urgent need for targeted policy-level interventions, especially at the levels of governing bodies (e.g., the University Grants Commission, the Council for Scientific Innovation and Research, the Department of Biotechnology, the Department of Science and Technology, the National Medical Commission, the Indian Council for Medical Research, among others) and individual institutions. Without such policy-level interventions, science practice in India runs the risk of losing out on diverse science practitioners. The lack of diversity in science practice has been deemed negative for the progress of science (Gibbs 2014).

This policy brief is a product of a larger research project that intends to understand how transgender persons in the Indian science ecosystem negotiate science and science higher-education and research institutions. To this aim, the research project combines policy analysis, applications under the Right to Information Act, 2005, and interviews as methodological tools.

The authors of this brief recognise that higher educational institutions, especially science institutions, are shaped by larger social structures of caste and patriarchy. This brief is, therefore, written with social justice frameworks – especially ones that are anti-caste and feminist – at the foreground. These frameworks have been used to critically analyse pre-existing judgements and policies to identify their strengths and weaknesses, and also the gaps that remain unaddressed by these interventions. Further, this brief is produced with the intention to inform transgender persons in the Indian science ecosystem of their rights, and to precipitate critical conversations that can drive actionable change in the Indian science ecosystem. This document also offers recommendations for policy-level interventions for promoting transgender-sensitive and inclusive science higher education and research.

The authors hope that this document can become a focal point for collective and critical deliberation on diversity, equity and inclusion in the Indian science ecosystem, and that transgender persons in the ecosystem are able to drive the conversation forward to territories that are outside the scope of this brief.

*‘Inclusive education’ means a system of education wherein transgender students learn together with other students without fear of discrimination, neglect, harassment or intimidation and the system of teaching and learning is suitably adapted to meet the learning needs of such students.*

*– The Transgender Persons (Protection of Rights) Act 2019*



# Educational Rights of Transgender Persons

## The NALSA v. Union of India Judgement 2014

The right to education for transgender persons was enshrined in the *NALSA v. Union of India* judgement (henceforth, the NALSA judgement) by the Supreme Court of India, which also recognised the right of a person to self-determine their gender. The court recognised that denying education to transgender persons is a violation of the right to equality before law and equal protection of law. Further, the court directed that the state is bound to take affirmative action for the inclusion of transgender persons in educational systems (*NALSA vs Union of India Judgement 2014, WP [Civil] No. 400 of 2012*). Notably, the court quoted from the *Yogyakarta Principles* – a document about human rights for gender- and sexually-marginalised people published after an international meeting of human rights groups in Indonesia – that **education itself can be used as a tool to eliminate prejudice and discrimination against gender- and sexually-marginalised groups** (“Yogyakarta Principles” 2006 and 2017).

## Circulars from the University Grants Commission

In response to the NALSA judgement, the University Grants Commission (UGC) released a circular dated 29 October 2014 that mandated the inclusion of transgender persons in all existing scholarships, fellowships and schemes in educational institutions under the ‘third gender’ category (University Grants Commission 2014). In 2015, the UGC released another follow-up circular reiterating the need for educational institutions to initiate affirmative action so that NALSA judgement’s cause of “mainstreaming” transgender persons is “fast-tracked within university and society at large.” The circular also mentioned that educational spaces need to create gender-affirming infrastructure (“TG-friendly [sic] infrastructure like washrooms, restrooms etc.”) so that transgender students can access these spaces without “fear, stigma or shame.” Moreover, the UGC also recorded an interest in awarding major research grants to ethnographers who could collaborate with transgender persons to provide insights into the life and culture of transgender persons in India. This, the UGC believed, was “socially relevant research” and could dispel popular myths surrounding transgender persons (University Grants Commission 2015).

Since then, however, gender-affirming infrastructure is lacking in the majority of educational institutions in India (Teja 2021).

In another 2015 circular, the UGC instructed higher-education institutions to instate students as ‘Gender Champions’, who would take a lead on gender-sensitisation on their campuses

(University Grants Commission 2015). The first version of the circular, however, did not include transgender persons and was restricted within the gender binary (Ministry of Women and Child Welfare 2015). In an amendment to the circular in 2016, transgender persons were allowed to apply for the position of 'Gender Champions'. Further, the amendment mentioned that Gender Champions could talk about "untold stories of extraordinary boys, girls, and transgender [sic] who changed lives for women and girls" (University Grants Commission 2016).

While the 2016 circular lists several activities that a Gender Champion could undertake, it does not mention whether institutional resources and funds would be allocated for those activities. Moreover, the circular does not provide the Gender Champion any power to affect institutional changes in terms of infrastructure and accessibility.

Further, according to the circular, candidates for the post of Gender Champion must have an "excellent" understanding of socio-cultural issues, and prevailing gender norms and practices. The circular, however, does not clarify what "excellent understanding" entails, and whether Gender Champions need to be necessarily trans-sensitive. Also, the circular does not clearly direct higher education institutes to ensure representation of transgender persons in the Gender Champions Committee to develop measures for transgender persons' access to educational institutes.

Importantly, none of the UGC circulars mentioned above lay down any punitive action against offender institutions or people discriminating against transgender persons in educational settings.

## The Transgender Persons (Protection of Rights) Act 2019

The Transgender Persons (Protection of Rights) Act, 2019, came into force in 2020. Transgender persons have criticised provisions of the Act for not upholding provisions laid down in the NALSA judgement in their true spirit (Sampoorna Working Group 2019). In the context of educational rights for transgender persons, the Act defines "inclusive education" as follows:

'Inclusive education' means a system of education wherein transgender students learn together with other students without fear of discrimination, neglect, harassment or intimidation and the system of teaching and learning is suitably adapted to meet the learning needs of such students. ("THE TRANSGENDER PERSONS [PROTECTION OF RIGHTS] ACT, 2019" Chapter 1, Section 2[d])

The Act prohibits discrimination against transgender persons in educational institutions. Further, it mentions that educational institutions must provide “inclusive education” for transgender persons. Importantly, it expands the ambit of education to include “opportunities for sports, recreation and leisure” in educational institutions.

However, the Act remains silent on reservations for transgender persons in education and employment, therefore effectively undoing the affirmative action mandated by the NALSA judgement.

Further, it is important to note that the Act does instate punitive action for offences against transgender persons, including denying access to spaces that “other members have access to or right to use” and subjecting them to mental, physical, verbal, emotional and sexual abuse. The punitive action listed is an imprisonment for six months to two years with a fine. This provision, however, has been criticised for blatantly considering the intensity of crime against transgender persons less than that faced by cisgender persons (Mudraboyina 2019).

### Box: Reservations for Transgender Persons in Higher Education

The question of reservations for marginalised groups has been debated in legislative, judicial and public discourses. In 2020, in the context of higher education in medicine (similar provisions hold jurisdiction over science and technology education in India), the Supreme Court of India ruled that state governments – in addition to the central government – have powers to grant reservations for marginalised groups in higher education. This was in response to an intervention filed by the *Tamil Nadu Medical Officers' Association and Ors. v. Union of India and Ors.* In the NALSA judgement, the court directed that central and state governments recognise transgender persons as people from a socially and economically backward class (SEBC) and extend appropriate reservations in admissions (*NALSA vs Union of India Judgment 2014, WP [Civil] No. 400 of 2012*).

However, intersectionally marginalised Dalit transgender persons have critiqued the reservation provisions of the NALSA judgement (*Grace Banu Ganesan vs State of Tamil Nadu, WP 6052 of 2019*). They point out that a vertical reservation provision, where all transgender persons will be clubbed under the Other Backward Classes (OBC) category, would lead to an erasure of the intersectional realities of transgender lives that are further complicated by the violence of casteism. In contrast, **they have demanded a horizontal reservation**, where a separate category of reservations is instituted for transgender persons (Kothari et al. 2018).

It has been advocated that these horizontal reservations for transgender persons should also be **compartmentalised**. This means that for admissions to an educational institute, transgender candidates should be evaluated on the basis of the merit list prepared for candidates from SC, ST, OBC or OC backgrounds, depending on the category they belong to (Kothari et al. 2018).

In 2021, the Karnataka state government provided 1 per cent reservation to transgender persons in employment – the first in the country to do so. This particular provision cuts across caste categories (Rajamane 2021). This was in response to an intervention filed by the organisation Jeeva in the *Sangama v. State of Karnataka* case in the Karnataka High Court. However, similar provisions in education are yet to be discussed or implemented.

Authors of this brief recommend that the above mentioned judgements and policy briefs be consulted before policies on reservations for transgender persons in higher education in India.

# Transgender Persons, and Inclusive and Non-Discriminatory Science Education

## The National Education Policy 2020

The National Education Policy 2020 (NEP2020) recognises that “providing universal access to quality education” is crucial to the development of the nation, including in terms of “social justice and equality.” Further, the NEP2020 also notes that one of its key goals is “full equity and inclusion as the cornerstone of all educational decisions” (Ministry of Education 2020).

Further, the NEP2020 recognises transgender persons as a socio-economically disadvantaged group (SEDG) in the broader category of gender-marginal groups, which includes “female and transgender individuals” (Ministry of Education 2020).

The NEP2020 also mentions, in the context of school education, that the Indian government would constitute a ‘Gender Inclusion Fund’ to increase access to education for “all girls as well as transgender students.” According to the policy, the central government will allocate the fund to states to “implement priorities determined by the Central Government”, indicating a highly centralised approach to equity and inclusion. With the funds, the states are expected to assist female and transgender students to pursue education through provisions of sanitation, bicycles, conditional cash transfers, among others; this fund, according to the policy, will allow states to implement “community-based interventions that address local context-specific barriers to female and transgender children’s access to and participation in education” (Ministry of Education 2020).

There appear to be several problems with this provision. First, whether such a fund will be instituted for higher-educational institutions – especially science institutions – is not clear. It is pertinent to note here that science higher-education and research institutions have severely tilted gender ratios (Bias Watch India). Second, the apparent centralisation of how the gender inclusion fund would be used runs the risk of the government not recognising the educational needs of local and socio-culturally unique transgender communities. Third, it has been previously noted that the clubbing together of cisgender women and transgender persons runs the risk of lesser funds being allocated for the inclusion of transgender persons in educational institutions (Datta 2020). It has also been noted that transgender persons may have different affirmative action requirements than cisgender women (Datta 2020).

The NEP2020 recognises that students from SEDGs need affirmative action to pursue higher education. It mandates that higher education institutions set up “high-quality support centres”; however, the policy does not discuss the nature of the support from these centres. It also mentions that financial assistance in the form of scholarships will be available to students from SEDGs, without mentioning the nature, amount, and duration of these scholarships.

The NEP2020 also mandates that sensitisation on “gender-identity issue” be carried out in all higher education institutions for “faculty, counsellor and students”, and that this also be incorporated into the curricula. However, it remains unclear if the NEP2020 is hinting at a transgender-sensitive and inclusive gender-sensitisation programme and curricula. Moreover, the NEP2020 doesn’t suggest measures in which existing curricula can be made gender-sensitive.<sup>3</sup>

Since the NEP2020 refers to sensitisation for counsellors, it is important to note that previous work has highlighted ingrained queer- and transphobia in mental-health practice in India (Chatterjee 2022; Kottai 2019; Price 2021; Tenneti 2020). This has also been attributed to the lack of a rights-based approach to mental healthcare practice in India (Kottai and Ranganathan 2019). Owing to this, sensitization of “counsellors” in higher-education institutions as advised by the NEP2020 may not be sufficient in transforming the mental healthcare landscape in higher-educational institutions. Rather, there is a need to address systemic and systematic queer- and transphobia in mental health curricula and practice.

Notably, the NEP2020 talks about inculcating scientific temper frequently, but it does not shed much light on gender-sensitive science education. Authors of this document believe that talking specifically about gender-sensitive science education is important for any policy that intends to make higher education inclusive and equitable, and that desires to inculcate scientific temper among its stakeholders (Sun 2019). It has already been pointed out that science institutions have heavily skewed gender ratios and are also heavily gendered (Baruah and Sahay 2022; Manasvi 2022, Chadha and Achuthan 2017). Further, since science institutions rarely engage with social and political questions, they might be at a higher risk of perpetuating gender-based exclusion and violence (Datta 2021).

---

<sup>3</sup> It is pertinent to note here that a teacher-training manual was published by the National Council for Education Research and Training (NCERT) for transgender-sensitive school education in 2021. The manual also made several meaningful recommendations for transforming existing curricula to transgender-sensitive and inclusive curricula. The manual was, however, taken down from the NCERT website after social media outrage (URL: <https://thewire.in/lgbtqia/ncert-removes-teacher-training-manual-on-transgender-inclusive-school-education-after-backlash>). The authors of this document have thoroughly studied the manual, and would like to put on record their faith in the same. Transgender-sensitive curricular changes in medical education have also been mandated by a 2021 Madras High Court Judgement in WP 7284 of 2021 (URL of the case: [https://www.livelaw.in/pdf\\_upload/madras-hc-judgment-on-lgbtqia-rights-394610.pdf](https://www.livelaw.in/pdf_upload/madras-hc-judgment-on-lgbtqia-rights-394610.pdf)).

The NEP2020 also remains silent on the question of reservations, which transgender persons deem as a key step in furthering their inclusion in educational spaces. Moreover, while the NEP2020 mandates higher educational institutions to set up support systems for people from SEDGs, it fails to recognise that these institutional support systems themselves often become violent against marginalised groups, and can further their exclusion from mainstream education. A case in point is the caste-based violence meted out by a faculty at the Indian Institute of Technology, Kharagpur, towards students from marginalised-caste backgrounds in a preparatory course for marginalised students (Datta 2021).

The NEP2020 also does not talk about gender-affirmative infrastructure in higher education institutions, which has been a key demand of transgender persons (Teja 2021; Datta 2022).

## The Draft Science, Technology and Innovation Policy 2020

The draft Science, Technology and Innovation Policy 2020 (STIP2020) from the Ministry of Science and Technology and the Department of Science and Technology is an important document that, among other things, attempts to provide a “renewed impetus to the mainstreaming of equity and inclusion within the STI ecosystem” (Department of Science and Technology 2020). It also draws from the draft Scientific Social Responsibility policy 2019<sup>4</sup>, and intends to tackle “all forms of discrimination, exclusions and inequalities in STI” through a nationwide chapter for equity and inclusion.

The draft STIP2020 mentions that LGBTQ+ (Lesbian, Gay, Bisexual, Transgender and Queer) individuals will be a part of conversations around equity and inclusion in the Indian science ecosystem, and that there will be “special provisions to safeguard their rights and promote their representation and retention in STI” (Department of Science and Technology 2020). Further, it shows an intention to sensitise the Indian science ecosystem on issues of gender and sexuality,

---

<sup>4</sup> The draft Scientific Social Responsibility (SSR) Policy, 2019, was released by the Department of Science and Technology, India, in September 2019, with the aim to bridge the gap between science and society in India. Notably, it aims at “Empowering women, disadvantaged and weaker sections [of the] society through scientific intervention.” The authors of this policy brief believe that future drafts of the SSR policy must intervene in banning conversion therapy practices through either modern or traditional medicine setups, since this is one domain in which scientific intervention can emancipate queer and transgender persons.

Queer and transgender persons have been pointing out how both modern and traditional medicine setups in the country have rampant conversion therapy practices in existence in the country. The Madras High Court banned conversion therapy in the state of Tamil Nadu in a judgement in *S. Sushma and Ors. vs. Commissioner of Police, WP 7284 of 2021*. Further, the National Medical Commission also responded to the Madras High Court by bringing conversion therapy practices under the ambit of medical misconduct (URL: <https://timesofindia.indiatimes.com/city/chennai/conversion-therapy-for-lgbtq-people-misconduct-by-doctors-nmc-to-madras-hc/articleshow/89736933.cms>). However, to the understanding of the authors of this document, these judgements only apply to medical entities under the National Medical Commission, which means that conversion therapy practices in traditional/alternative medicine setups continue to remain unchecked.

while collecting large-scale statistical data to understand the reasons behind the dropout rates of marginalised people from the Indian science ecosystem.

While the draft STIP2020 does suggest specific interventions for inclusion and retention of women scientists, it does not have any specific interventions to the same effect for transgender persons. It does mention that LGBTQ+ individuals will be eligible for “spousal benefits”, which include retirement benefits, “to any partner irrespective of their gender.” But besides that, it remains silent on how it intends to promote gender-neutral infrastructure in science institutions, improve access to gender-affirming spaces in these institutions, and implement reservations and other affirmative-action policies to the benefit of transgender individuals.

## The Comprehensive Accessibility Guidelines and Standards for Higher-Education Institutions and Universities 2022

The Comprehensive Accessibility Guidelines and Standards for Higher-Education Institutions and Universities 2022 (CAGS2022) from the UGC is a document that aims to ensure equitable and inclusive access to quality education (University Grants Commission 2022). The document largely focuses on persons with disabilities, but does contain parts that refer to or are of interest to transgender persons in higher education in India. For example, the document draws from the Transgender Persons (Protection of Rights) Act, 2019, to set the context for accessibility in higher education institutions.

The CAGS2022 lists the specific needs of transgender persons in section 2.1.18 under the broader ambit of section 2.1 (Disability Specific needs which require Accessibility Considerations). While we recognise that transgender persons with disability have specific needs in higher education settings, bringing transgender persons under the ambit of persons with disabilities runs the risk of conflating two marginalised identities without recognising the specific interventions required to ensure their access to higher education spaces.

The CAGS2022 lists the specific needs of transgender persons in higher educational institutions as follows:

### Transgender persons

- (a) May need emotional-behavioural and psycho-social support.
- (b) May need support in campus records and documents.
- (c) May require assistance in participation of activities or use of facilities. (Pg. 22)



The document does not delve into specific details of emotional-behavioural, psycho-social and other support that transgender persons require. Further, the document provides examples of support for “gender needs and transgender persons” as follows:

Some examples of support for Gender needs and Transgender Persons

- (a) Gender friendly classroom environment and transactions
- (b) Develop positive self-concept and self-esteem among students. (Pg. 31)

However, the document does not mention specific steps to make classrooms gender-friendly and help transgender persons instil “positive self-concept and self-esteem.”

The CAGS2022 also mentions that “the law also requires an independent toilet unit for transgender persons”, while calling for “high-level of hygiene” in washrooms. The phrasing suggests that the washroom would be specifically restricted to transgender persons – a measure that transgender persons have specifically contested (Bali 2021). Further, the policy remains silent on whether the washroom infrastructure be made gender-affirmative. For example, would trans men be able to use men’s washrooms or trans women be able to use women’s washrooms?

The CAGS2022 also remains silent on gender-affirming accommodation for transgender persons in higher-education.

It is important to note that none of the aforementioned policies address the concern of transgender persons affirming their gender without losing their academic credibility (expanded in section 1 of this brief).

## Conclusions, Recommendations and Critical Interventions

The authors of this policy brief appreciate and commend the effort made by several government bodies to recognise the inequities in higher education in India, and their attempts at making higher education, including science education, more accessible and inclusive for transgender persons.

However, there remain significant gaps in the aforementioned interventions. This policy brief has identified some of these and, in this section, offered suggestions to address the same.

The suggestions made by the authors in this section, although listed with an intention to intervene in science higher education in India, are applicable to higher-educational institutions in general.

The authors make these recommendations keeping in mind demands from transgender persons that have surfaced in public, legislative and judicial domains, and community-consultation processes undertaken by the lead author.

### General Recommendations

Transgender persons have led the legal fight for access to education and non-discrimination in educational spaces (*Swapna and Ors. vs The Chief Secretary, WP 31091 of 2016; S.Tharika Banu vs The Secretary to the Government, WP 28349 and 28350 of 2017*). This brief, therefore, puts at the forefront their concerns and advocates for community-focussed legislative and judicial interventions that are driven by community-consultation processes.

The authors would like to clarify that recommendations mentioned here are only starting points for making science higher education institutions transgender-inclusive and sensitive. Institutions, and policy-making and governing bodies, must engage with transgender persons to build on these recommendations and to further critical dialogue.

Higher educational institutions – especially science institutions – and governing bodies like the UGC, the DST, among others must engage with bodies like the National Council for Transgender Persons to drive community-driven interventions for increased inclusion of transgender persons in higher education, especially science education.

Any equity and inclusion intervention must be grounded in the NALSA judgement, uphold the right to self-determination of gender, and aim to implement **horizontal and compartmentalised reservations** in education. These reservations should not be limited just to students, but also for hiring in faculty, staff and administrative roles. There need to be practical checks – including periodic audits – on whether the reservation provisions are being implemented.

Hiring policies and admission requirements in science institutions must be relaxed to account for historic, systemic and structural marginalisation and exclusion faced by transgender persons.

Gender- and sexuality-sensitisation programmes, along with caste sensitisation programmes, should be conducted for students, their parents, teaching and non-teaching staff, contractual employees, and administrators in science institutions. These sensitisation programs should be conducted by organisations led by people from gender- and caste-marginal locations.

During our community-consultation process, it was pointed out that most such sensitisation programs are conducted by people from English-speaking, urban and dominant caste and class backgrounds. Authors of this brief recommend that these sensitisation programs be conducted by people who do not have the aforementioned privileges to familiarise attendees with lived realities of marginalised groups that people from privileged groups may not be able to truly comprehend or represent.

Institutions should guarantee monetary support (we recommend a working rate of Rs. 10000/- per two hours of a resource person's time based on the feedback we received during the community-consultation process) for these sensitisation programs. This is also important as it allows the representation of transgender persons who do not have social and economic capital in the Indian science ecosystem.

Further, these sensitisation programmes should point out gendered, queerphobic and transphobic histories of science, often interlinked with caste and casteism, in addition to the emancipatory potential of science and science institutions for transgender persons. This will allow for a critical engagement with science and science institutions.

Rather than one-day training programs, institutions should support regular and ongoing programs where people can converse about emerging dilemmas and questions with respect to the inclusion of transgender persons in the Indian science ecosystem.

Science higher-education institutions must conduct internal surveys to collect data on the number of transgender persons present in their institution across student, faculty, non-teaching

staff and administrative bodies. Further, these surveys should be geared towards understanding the issues faced by transgender persons in these institutions. This will help generate institution-level data that can be used for community-driven policy-making. These surveys must be conducted completely anonymously (so as to not breach the privacy of transgender individuals) and at periodic intervals.

Science institutions should promote and incentivise collectivisation of transgender persons on campuses and engage with them continuously and cooperatively to implement transgender-sensitive and inclusive changes. Institutions should also provide appropriate funds to such collectives for leading sensitisation and engagement events.

Affirmative support beyond reservations – like tutorial classes – must be made available to transgender persons in science institutions. It is important that these systems of support do not ghettoise, ostracise or discriminate against transgender persons.

Gendered institutional practices, including imposition of specific dress codes, uniforms etc., or gendered staircases and elevators, tend to make transgender persons uncomfortable and may cause severe mental and physical stress. These practices must be let go for a truly transgender-sensitive and inclusive education.

In summary, higher education institutions, including science institutions, must extend support – through sensitive teachers, support staff, counsellors, tutors, infrastructure, etc. – gender-marginalised/questioning persons to complete their education satisfactorily and without barriers of age, location and medium. For gender-marginal persons who are employed/looking to be employed at these institutions, institutional settings must be modified to accommodate their requirements.

## Infrastructural Recommendations

Gender-neutral/all-gender and gender-affirming accommodation and washrooms must be available for all transgender persons in science institutions. Availing these accommodations and using these washrooms must not inevitably out transgender persons without their consent, but allow for a safe and non-discriminatory participation on campus.

Transgender persons on campus should be allowed to stay in hostels/dormitories and use washrooms of their preference without fear of discrimination.

On-campus health infrastructure – including mental health infrastructure and on-campus health insurance – must accommodate the specific needs of transgender persons. On-campus doctors, psychologists, counsellors and therapists should be transgender-sensitive and trained in queer-affirmative counselling practices.

Privacy and safety of transgender persons should be always ensured, especially when a transgender person avails healthcare facilities on campus, including mental healthcare.

If transgender persons do not wish to avail on-campus healthcare facilities, including mental healthcare, they should not be compelled to do so. Rather, institutions should provide financial and logistical support to enable them to access healthcare off-campus.

## Curricular Recommendations

Science curricula – especially biology, medicine and psychology curricula – must be critically and comprehensively evaluated for queer- and transphobic content. The curricula must be revised keeping in mind recommendations made by the Madras High Court judgements, the *NALSA v. Union of India* judgement, the NCERT teacher-training manual on transgender-sensitive school education, and in consultation with transgender persons and other relevant stakeholders.

Curricula that medicalise and pathologise transgender identities and persons should be discarded. Any curricular material that advocates for conversion therapy should be discarded promptly and replaced with material that talks about its harms.

Life narratives of transgender persons – especially from marginalised caste and tribe locations – must be brought into science classrooms at appropriate and frequent opportunities. This will allow students and teachers to engage with struggles and achievements by transgender persons in the science ecosystem, as well as provide transgender students with role models.

Curricula-governing bodies like the UGC may consider forming a committee that oversees implementation of the recommended curricular interventions to ensure their speedy and consistent enactment.

## Policy-Level Recommendations

Anti-harassment and anti-ragging policies – including anti-sexual harassment policies like the Prevention of Sexual Harassment at Workplace Act, 2013 – must be critically revised to bring transgender persons in their ambit.

Punitive actions against people who harass, abuse or discriminate against transgender persons must be at par with punitive actions taken against people committing the same offences against cisgender persons on campus.

A comprehensive on-campus Gender Policy must be drafted and executed in consultation with transgender persons both on- and off-campus, transgender-sensitive lawyers, and other relevant stakeholders. The Gender Policy must be drafted with the intention to (a) increase the access and retention of transgender persons in the institution through affirmative action and (b) protect transgender persons from discrimination and violence.

Larger policy-driven interventions need to be conceptualised and materialised that would allow transgender persons to transition as per their choice without losing their academic credibility. Changing their name and gender on published papers and awarded degrees must be facilitated.

A Committee for Transgender Persons must be instated in science institutions to specifically look at issues concerning transgender persons. The committee must have adequate representation from transgender persons on campus, including students and faculty. Further, the committee must have at least one external member who must be a transgender person.

The Committee for Transgender Persons must have a policy on transgender persons committing caste violence, harassment and atrocity, including on cisgender marginalized tribe-caste persons. Ideally, these should come under the ambit of the SC/ST cell. If such a cell does not exist, the policy must include policies to address casteism and establish a robust SC/ST cell as per the state guidelines as soon as possible.

## Further Reading

Competencies on Trans-Affirmative Health Provisions. *Sangath India*. URL: <https://sangath.in/transcaremeded/>.

Trans-Affirmative Medical Education in India: Need for Reform and Competencies. *Sangath India*. URL: <https://sangath.in/transcare/>.

Menon C, S. et al. Be a Buddy, Not a Bully: Experiences of Sexual and Gender Minority Youth in Tamil Nadu Schools. *UNESCO, New Delhi*. 2019. URL: <http://orinam.net/content/wp-content/uploads/2019/06/368435eng.pdf>.

## References

- Bali, Etti. 2021. "Trans-people welcome the decision for separate toilets, but need gender-neutral toilets." Hindustan Times. <https://www.hindustantimes.com/cities/delhi-news/transpeople-welcome-the-decision-for-separate-toilets-but-need-gender-neutral-toilets-101614059375436.html>.
- Baruah, Deepika, and Sandeepa Sahay. 2022. "STEMming Gender Divide in India | British Council - Collaborate and recruit internationally." British Council's Education Services. <https://education-services.britishcouncil.org/insights-blog/stemming-gender-divide-india>.
- Bias Watch India. n.d. "Base rates of STEM Women faculty in India." BiasWatchIndia. Accessed October 31, 2022. <https://biaswatchindia.com/base-rates-of-indian-women-faculty/>.
- Chadha, Gita, and Asha Achuthan. 2017. "Feminist Science Studies: Intersectional Narratives of Persons in Gender-Marginal Locations in Science." *Economic and Political Weekly*.
- Chatterjee, Aritra. 2022. "Adapting Psychiatric Case History Taking Practices for Indigenous Transgender Communities." *Journal of Psychosexual Health* 4, no. 2 (April). <https://doi.org/10.1177/26318318221087188>.
- Datta, Sayantan. 2020. "A constant uneasy state: Trans people in STEM in India." The Life of Science. <https://thelifeofscience.com/2020/11/09/transgender-people-in-science/>.
- Datta, Sayantan. 2021. "Queer-trans people in STEM talk about their mental health." IndiaBioscience. <https://indiabioscience.org/columns/indian-scenario/queer-trans-people-in-stem-talk-about-their-mental-health>.
- Datta, Sayantan. 2021. "Casteism keeps our top institutes running." The Life of Science. <https://thelifeofscience.com/2021/06/01/get-out-of-class/>.
- Datta, Sayantan. 2021. "'I have only brought them pride': A trans doctor's journey in medicine." The Life of Science. [https://thelifeofscience.com/2021/08/27/aqsa\\_comix/](https://thelifeofscience.com/2021/08/27/aqsa_comix/).



Datta, Sayantan. 2022. "Indian Science Institutes' Curious Penchant for Gendered Hostels – The Wire Science." The Wire Science. <https://science.thewire.in/the-sciences/gendered-segregated-hostels-science-institutes/>.

Datta, Sayantan, and Upasana Agarwal. 2020. "Salamanders, crickets and zebrafish: Bittu's journey in science (and gender)." The Life of Science. <https://thelifeofscience.com/2020/07/31/salamanders-crickets-and-zebrafish-bittus-journey-in-science-and-gender/>.

Department of Science and Technology. 2020. "Science, Technology, and Innovation Policy." Department Of Science & Technology. [https://dst.gov.in/sites/default/files/STIP\\_Doc\\_1.4\\_Dec2020.pdf](https://dst.gov.in/sites/default/files/STIP_Doc_1.4_Dec2020.pdf).

Gibbs, Kenneth. 2014. "Diversity in STEM: What It Is and Why It Matters." Scientific American Blogs. <https://blogs.scientificamerican.com/voices/diversity-in-stem-what-it-is-and-why-it-matters/>.

*Grace Banu Ganesan vs State of Tamil Nadu, WP 6052 of 2019 (PIL)*. n.d.

Kothari, Jayna, Deekshitha Ganesan, Saumya Dadoo, J. Mandakini, and Sudhit Krishnaswamy. 2018. "Making Rights Real: Implementing Reservations for Transgender and Intersex Persons in Education and Public Employment." CLPR. <https://clpr.org.in/wp-content/uploads/2018/12/Policy-Brief-2018-Implementing-Reservations-for-Transgender-and-Intersex-Persons.pdf>.

Kottai, Sudarshan R. 2019. "Sitting on the fence, playing to the gallery of psychiatry: Clinical psychology disrupted." Mad in Asia Pacific. <https://madinasia.org/2019/07/sitting-on-the-fence-playing-to-the-gallery-of-psychiatry-clinical-psychology-disrupted/>.

Kottai, Sudarshan R., and Shubha Ranganathan. 2019. "Fractured narratives of psy disciplines and the LGBTQIA+ rights movement in India: A critical examination." *Indian Journal of Medical Ethics*, (March). <https://doi.org/10.20529/IJME.2019.009>.

- Kurup, Anitha, Maithreyi R, Kantharaju B, and Rohini Godbole. 2010. "Trained Scientific Women Power: How Much are we Losing and Why." Indian Academy of Sciences. <http://eprints.nias.res.in/142/1/IAS-NIAS-Report.pdf>.
- Manasvi, C. M. 2022. "Lack of Family, Institutional Support Continues to Beleaguer Women in Science – The Wire Science." The Wire Science. <https://science.thewire.in/the-sciences/lack-family-institutional-support-beleaguer-women-in-science/>.
- Ministry of Education. 2020. "National Education Policy 2020." Ministry of Education. [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English\\_0.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf).
- Ministry of Women and Child Welfare. 2015. 4-2/2014-WW. Ministry of Women and Child Welfare.
- Mudraboyina, Rachana. 2019. "A Critique Of Transgender Persons (Protection Of Rights) Bill, 2019." Feminism In India. <https://feminisminindia.com/2019/08/05/critique-transgender-persons-protection-of-rights-bill-2019/>.
- NALSA vs Union of India Judgment 2014, WP (Civil) No. 400 of 2012.* N.d.
- Price, R. 2021. "The multi-faceted medicalization of homosexuality in india 1970-1990." *The Postgraduate Journal of Medical Humanities*. [http://humanities.exeter.ac.uk/media/universityofexeter/collegeofhumanities/history/researchcentres/centreformedicalhistory/pdfsanddocs/The\\_Postgraduate\\_Journal\\_of\\_Medical\\_Humanities7\(2021\).pdf](http://humanities.exeter.ac.uk/media/universityofexeter/collegeofhumanities/history/researchcentres/centreformedicalhistory/pdfsanddocs/The_Postgraduate_Journal_of_Medical_Humanities7(2021).pdf).
- Rajamane, M. 2021. "Horizontal Reservations for Transgender Persons : Taking Intersectionality Forward - Centre for Law & Policy Research." CLPR. <https://clpr.org.in/blog/horizontal-reservations-for-transgender-persons-taking-intersectionality-forward/>.
- Sampoorna Working Group. 2019. "ampoorna Working Group Statement on Transgender Persons (Protection of Rights) Bill 2019." Varta Blog. <https://vartagensex.org/wp-content/uploads/2019/10/15653698750103-tg-persons-prot-of-rights-bill-spwg-stmnt.pdf>.

*S.Tharika Banu vs The Secretary to the Government, WP 28349 and 28350 of 2017.* N.d.

Sun, S. D. 2019. "Stop Using Phony Science to Justify Transphobia - Scientific American Blog Network." Scientific American Blogs.  
<https://blogs.scientificamerican.com/voices/stop-using-phony-science-to-justify-transphobia/>.

*Swapna and Ors. vs The Chief Secretary, WP 31091 of 2016.* N.d.

Teja, Charan. 2021. "Why Indian campuses need gender neutral hostels." The News Minute.  
<https://www.thenewsminute.com/article/why-indian-campuses-need-gender-neutral-hostels-147851>.

Tenneti, Suchaita. 2020. "Curative violence against LGBT+ people in India." Prajnya Trust.  
<https://prajnya.in/storage/app/media/rrgritpaper1.pdf>.

"THE TRANSGENDER PERSONS (PROTECTION OF RIGHTS) ACT, 2019." 2019. India Code.  
<https://www.indiacode.nic.in/bitstream/123456789/13091/1/a2019-40.pdf>.

University Grants Commission. 2014. *Circular APA/383/20-A/of 2014*. University Grants Commission.

University Grants Commission. 2015. *Circular 14-8/2014(CPP-II)*. University Grants Commission.

University Grants Commission. 2015. *Circular 91-2/2014(GS)*. University Grants Commission.

University Grants Commission. 2016. *Circular F.91-7/2016(GS)*. University Grants Commission.

University Grants Commission. 2022. "Comprehensive Accessibility Guidelines and Standards for Higher-Education Institutions and Universities." UGC.  
[https://www.ugc.ac.in/pdfnews/8572354\\_Final-Accessibility-Guidelines.pdf](https://www.ugc.ac.in/pdfnews/8572354_Final-Accessibility-Guidelines.pdf).

"Yogyakarta Principles." 2006 and 2017. Yogyakarta Principles.  
<http://yogyakartaprinciples.org/principles-en/official-versions-pdf/>.



TESF India is anchored at the Indian Institute for Human Settlements (IIHS), Bangalore. It aims to develop sustainable institutional capacity in India through the production of high-quality research that will assist key stakeholders to better understand how education systems can be transformed to support sustainable development.

[www.tesfindia.iihs.co.in](http://www.tesfindia.iihs.co.in)