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Q8(a)

Sociologists argue for democratization of science and technology for inclusive development. Comment.

UPSC Civil Services Mains 2022 · Sociology GS 1 · 20 marks · Social Change in Modern Society

Social Change in Modern Society: Sociological theories of social change; Development and dependency; Agents of social change; Education and social change; Science, technology and social change.

Core demand of the question

- Sociologists argue for democratization of science and technology for inclusive development. Comment
- Keep the comment within a 20-mark length

Revision summary

Democratization opens the agenda, access, and risks of S&T to public judgment.

Habermas, **Harding**, **Marx**, Frank, and Wallerstein explain expert and core monopoly.

Narmada, generics, people's science, and digital ID are test cases.

Inclusion can coexist with surveillance and gig degradation.

The claim is for a public science, not against method.

Introduction

Democratization of science and technology means that the direction of research, the ownership of tools, and the risks of application are opened to public judgment, not left only to labs, firms, and ministries. Inclusive development fails when innovation serves a core of users and dumps risk on a periphery.

Body

Why sociologists argue this

- Jurgen **Habermas** distinguished technical control from practical and emancipatory knowledge. Science as expert monopoly colonises the lifeworld.
- Sandra **Harding**'s standpoint and strong objectivity ask whose questions get funded. A science that ignores women's work or Dalit exposure to toxins is not neutral.
- **Karl Marx** treated technology as a labour process under capital: machinery can degrade work even as output rises.
- **Immanuel Wallerstein** and **Andre Gunder Frank**: patents, labs, and high-tech sit in cores; dirty process and e-waste sit in peripheries.

What democratization looks like

- **Public agenda-setting**: farmers, patients, and forest users helping name research problems, as in some participatory plant-breeding and people's science movements.
- **Access**: generic medicines, open data, and public digital goods versus enclosure.

- **Risk consent:** nuclear, genetic, and large-dam choices after **Narmada**-style hearing, not after the concrete is poured.
- **Education and language:** **Census** literacy is not enough if scientific citizenship stays English-and-metro.

Inclusive development

- Aadhaar, UPI, and platform work show technology as inclusion and as surveillance or gig degradation together.
- Green revolution raised grain and also regional and class polarisation; the next round of agri-tech repeats the question.
- SHG digital bookkeeping can include women or add unpaid admin labour.
- Climate tech without land rights will not include those Chipko first named.

Comment

- The argument is not anti-science. It is anti-oligarchy of expertise and capital in the name of development.
- Merton's CUDOS norms already asked for communalism of knowledge; democratization extends that to direction and harm.
- Without it, "development" is growth for some and a new closed stratification of know-how.

Flow diagram

Science and technology -> Expert and capital monopoly
Democratization -> Public agenda access consent
Expert and capital monopoly -> Exclusive development
Public agenda access consent -> Inclusive development

Conclusion

Sociologists argue for democratizing science and technology because expertise and capital otherwise steer development toward cores and degrade work and environments at the edge. **Habermas**, **Harding**, **Marx**, and world-system theory support the claim. Inclusive development needs public agenda, access, and consent, as **Narmada** and medicine-access fights show.

Facts & figures

Habermas

Knowledge-constitutive interests: technical control is not the whole of reason.

Harding

Standpoint: unexamined science serves dominant locations; strong objectivity names them.

Narmada

A demand that dam technology face public consent of the displaced.

Merton CUDOS

Communalism and organised scepticism as already a weak democratization of scientific knowledge.

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