



Vivekananda International Foundation

River Water Pollution

**A New Threat to India:
A Case Study of River Ganga**

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River Water Pollution - A New Threat to India: A Case Study of River Ganga

Introduction

Water is absolutely essential for the basic sustenance of human being. No wonder most of the civilisations have come up on the banks of rivers or in the river valleys. India is no exception. In India every city has come up on the bank of a major river. Here it needs to be noted that fresh water is finite. Total water available in the world is 1,400,000 cubic km. However 96.5 percent of it is there in the oceans and only 1.7 percent is ground water, 1.7 percent is in glaciers and .01 percent is in the atmosphere in the form of water vapour.

Only 2.5 percent is fresh water and 98.8 percent of this fresh water is in the form of ice and only 0.3 percent is in the lakes and rivers. Finally, 0.003 percent of the fresh water is within biological bodies.¹ 70 percent of the fresh water is used up for the agriculture and with the changing crop pattern the requirement of the freshwater is on the rise. To make matters worse, the population is also exponentially rising. As per the Food and Agriculture Organization (FAO) estimates the water usage has been growing at more than twice the rate of population increase in the last century.²

Water pollution is making matters worse. In case of the Indian Sub-continent, 30 percent of the major Himalayan rivers are biologically dead for fishing and usage for human consumption. Rising population is another factor which is affecting the per capita water availability. In this connection it is pertinent to note that in 1951 water availability in India was 5177 cubic metres per capita per year, which had got reduced to 1342 Cubic metres per person per year by 2000. With rise in population since year 2000 it must have become worse.³ Shortage of water and its centrality is going to cause major social and geopolitical stresses. Our neighbours like Pakistan, China and Bangladesh are having their own problems due to water scarcity. Since water resources of Indian Sub-continent are monolithic in nature, the shortage has its own international ramifications. Therefore, there is a need to address the water issues on priority.

In India, one of the most important river is Ganga which is the lifeline of a major portion of the population of the Northern India. Decline in its quality of water is affecting the health, agriculture and overall life style of a major portion of the Indian masses. A detailed study to analyse the problems of Ganga will be quite useful and revealing to understand the problems related to the river waters in India.

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1. The entire data has been taken from the book, "Water a Source of Future conflicts" by Maj Gen AK Chaturvedi, Pub by Vij Books India Pvt Ltd, New Delhi during 2013.
 2. <http://www.fao.org>
 3. Jayshree Nandi, "Poison in our Paani", pub in the Times of India, New Delhi addition, dated 02 Dec 2012, page-11.

Case Study of the River Ganga

River Ganga is not a normal river, it is not only the life line of Northern India but also has a very special place in the spiritual consciousness of every Hindu irrespective of the fact whether that person is based in India or is a Person of Indian Origin (PIO) settled abroad. The 2,525 km river rises in the western Himalayas in the Indian State of Uttarakhand and flows south and east through the Gangetic plains of India and Bangladesh, eventually emptying into the Bay of Bengal. Enroute a large number of rivers and streams join it to make it a mighty river. The Ganga is a lifeline to 40 percent population of India who live along its course. By discharge, it is the fifth largest river in the World:-

Table-1: Five Largest Rivers of the World by Discharge

Serial No	Name of the River	Average Discharge at the Mouth of the River (cubic metres/second)
1	Amazon	2,12,000
2	Congo	40,000
3	Yangtze	22,000
4	Brahmaputra	20,000
5	Ganga	19,000

Source: Maj gen AK Chaturvedi, "Water a Source of Future Conflicts", Page 4

River Ganges is considered a sacred river by Hindus, and worshiped as the goddess 'Ganga' in Hindu pantheon. It has been important historically: many former provincial or imperial capitals (such as Pataliputra, Kannauj, Kara, Kashi, Prayagraj, Murshidabad, Munger, Bahrapur, Kampilya and Kolkata) have all been located on its banks.



Map-1: Course of Ganges and its Major Tributaries

Source: <https://www.quora.com>

The Course of the River from Sky to Ocean

After originating from the Gangotri Glacier at Goumukh in Garhwal Himalayas in Uttarakhand as the River Bhagirathi, the main stream of the River Ganga begins at the confluence of the Bhagirathi and Alaknanda rivers in the town of Devprayag of the Indian State of Uttarakhand. The headwaters of the River Alaknanda are formed by snowmelt from peaks such as Nanda Devi, Trishul and Kamet.

Although many small streams contribute to the headwaters of the Ganga, six longest and their five confluences are considered sacred and important. The six headstreams are: Alaknanda, Dhauliganga, Nandakini, Pindar, Mandakini and Bhagirathi. The five confluences, known as the Panch Prayag, are all along the Alaknanda. From up to downstream order, they are: Vishnuprayag; where the Dhauliganga joins the Alaknanda; Nandprayag, where the Nandakini joins; Karnaprayag, where the Pindar joins, Rudraprayag, where the Mandakini joins; and finally, Devprayag, where the Bhagirathi joins the Alaknanda to form the Ganga.

After flowing 250 km through mountains, Ganga finally emerges in the plains at Rishikesh. At Haridwar, it is dammed at Bheemgoda Dam, from where some of its water gets diverted into the Ganga Canal, whereas the river, whose course has been roughly southwest until this point, now begins to flow southeast through the plains of northern India. The Ganga River follows an 800 km course passing through the cities of Kannauj, Farrukhabad and Kanpur. Along the way it is joined by the River Ramganga near Kannauj. Ganga is joined by the River Yamuna at Prayagraj. At their confluence at Prayagraj, the Yamuna is larger than the Ganga, contributing about 58.5 percent of the combined flow. Now flowing east, Ganga river meets the Tons River (ancient name Tamsa) at Sirsa, about 311 km downstream of Prayagraj. After the Tons, the Gomti River joins Ganga near Saidpur, Kaithi in Varanasi district. Then the Ghaghra River, also flowing south from the Himalayas of Nepal, joins. The largest tributary of the Ganges, it is known as Karnali in Nepal.

Next important river to join is the Son River. It is the principal southern tributary of the Ganga River, which rises in the state of Madhya Pradesh. It flows north past Manpur and then turns north-east. The river joins the Ganga above Patna. The Gandaki River and the Kosi River from Nepal also join Ganga with massive inflow. In fact, Kosi is the third largest tributary of the Ganga, after Ghaghara and Yamuna. Kosi River merges into Ganga near Kursela in Bihar. Along the way between Prayagraj in Uttar Pradesh and Malda in West Bengal, the Ganga River passes through the towns of Chunar, Mirzapur, Varanasi, Ghazipur, Ballin, Buxar, Chapra, Hajipur, Patna, Bhagalpur and many others. At Bhagalpur, the river begins to flow South-Southeast and at Pakur, it begins its attrition with the branching away of its first distributary, the Bhagirathi-Hooghly which goes on to become the Hooghly River.

Just before the border with Bangladesh, the Farakka Barrage controls the flow of Ganga, diverting some of the water into a feeder canal linked to the Hooghly for the purpose of keeping it relatively silt-free. The Hooghly River is formed by the confluence of the Bhagirathi River and Jalangi River at Nabadwip. River Hooghly also has a number of tributaries of its own. The largest is the Damodar River. Between Malda and the Bay of Bengal, Hooghly River passes the towns and cities of Murshid-

abad, Nabadwip, Kolkata and Howrah. Finally; the Hooghly River empties into the Bay of Bengal near the Sagar Island.

What Ails the Quality of Water of River Ganga

The river flows through 100 cities with populations over 100,000, and 97 cities and 48 towns with populations between 50,000 to 100,000. A large proportion of sewage water with higher organic load in the Ganges is from this population through domestic water usage. Because of the establishment of a large number of industrial cities on the bank of the Ganges like Kanpur, Prayagraj/Allahabad, Varanasi and Patna, countless tanneries, chemical plants, textile mills, distilleries, slaughterhouses, and hospitals prosper and grow along this and contribute to the pollution of the Ganges by dumping untreated waste into it. One coal-based power plant on the banks of the Pandu River, a Ganges tributary near the city of Kanpur, burns 600,000 tons of coal each year and produces 210,000 tons of fly ash. The ash is dumped into ponds from which a slurry is filtered, mixed with domestic wastewater, and then released into the Pandu River. Fly ash contains toxic heavy metals such as lead and copper. The amount of parts per million of copper released in the Pandu before it even reaches the Ganges is thousand times higher than what is there in the uncontaminated water.

Industrial effluents are about 12 percent of the total volume of effluent reaching the Ganges. Although a relatively low proportion, they are a cause for major concern because they are often toxic and non-biodegradable. Despite being a lifeline of millions of people staying along its course Ganga is steadily getting sick for many reasons; some due to apathy of people and some due to natural phenomena. Lifeline of a large number of Indians and a spiritual mooring for a large number of Hindus not only in India but all over the world, Ganga is reckoned as one of the most polluted river in the world today. Some of the important reasons are discussed in succeeding paragraphs.

Sewage from many cities along the river's course, industrial waste especially from the tanneries and religious offerings wrapped in non-degradable plastics, add large amounts of pollutants to the river as it flows through densely populated areas. During festival season immersion of idles having large amount of plastic and chemicals further add to the pollution of the water. The River is also used for throwing the half burnt dead bodies and animal carcass which add to the pollution of the water. During Monsoon when river water invades the flood plains, the pesticides and chemical manures used in the fields located near the river course; further contaminate the water.

Despite the ongoing campaign against the open defecation, the fact remains that the flood plains are still used by a large number of people as areas for defecating. Feces thus generated find way into the river water. Case in point is the state at Varanasi. The levels of fecal coliform bacteria from human waste in the river near Varanasi, the most ancient living city of the world and a very sacred seat of Hindu faith, today is said to be more than a hundred times that of the Indian government's stated official limit. It is because Varanasi is a city of over 1.2 million people and is visited by a large number of pilgrims to take holy dip in the Ganges. Such a heavy concentration of human beings releases around 200 million litres of untreated human sewage into the river each day, leading to large concentrations of fecal coliform bacteria. Story is same with other cities and human concentrations located on the banks of River.

A large number of small streams join the river during her journey in the mountains, however over a period of time, due to increasing pressure of the population, people have settled next to these small streams and thus the flow of these streams into the main course of the river gets blocked. Such activities reduce the supply of fresh water into the river rendering its quality getting further degraded.

Large scale deforestation in the catchment areas further reduces soil's capacity to arrest flow of water and accentuates silt getting carried with the water. Global warming is resulting into faster melting of glacier (22 meters/year) and that will result into increasing instances of floods in the monsoon and increasing reduced flow of water in the main stream of the river in years ahead.

Impact of Pollution

The problem is exacerbated by the fact that many poor people depend on the waters of Ganga on a daily basis for bathing, washing, and cooking. The World Bank estimates that the health costs of water pollution in India equal three percent of the India's GDP. It has also been suggested that eighty percent of all illnesses in India and one-third of deaths can be attributed to water-borne diseases. The danger Ganga's polluted water poses is not only to the humans but also to the animals. Some of the important threatened species include, more than 140 fish species, 90 amphibian species, reptiles such as the Gharials, and mammals such as the South Asian River Dolphin. Incidentally, Dolphins and Gharials are also included in the International Union for Conservation of Nature's (IUCN) critically endangered list and a threat to their survival is of grave consequences.

Impact of Silting of the River

Most of the rivers in North India are glacier fed. Himalayan glaciers are considered dirty glaciers as they are, firstly sun facing, and secondly, their gradient is also quite steep. As such, water from these glaciers is full of silt. Once river reaches plains and the velocity of the flow reduces, the silt starts accumulating. Such accumulation of silt changes the profile of the river cross section from trapezoidal to more saucer shaped. Reduction in depth of the river course makes its water to inundate adjoining areas during monsoon. Also, the river course becomes wider and wider necessitating larger flood plains.

There are two more related issues of need for preservation of flood plains and encroachment of flood plains in the problem areas which need to be addressed. The first one is the need for de-silting and second one is keeping the river plains free from encroachment. Both these are interrelated. Silt accumulation is a common phenomenon in glacier fed Ganga as water comes from a great height and there is massive deforestation in the catchment areas. Both these contribute to increase in the quantity of the silt which comes with the river water. The silt gets accumulated while river travels through plains where slope is reasonably gentler. As stated, such accumulation causes changes in the cross sectional profile of river in plains from a trapezoidal section to more saucer shaped section, and unless river plains are free from encroachment, excess volume of discharge during monsoon causes loss of life and property, besides pollution of the river due to chemical fertilisers and pesticides getting mixed with the river water, and degradation of agricultural land and water pollution.

Efforts to Clean Ganga

The Government of India became conscious of cleaning Ganga quite early. Over a period of time the Union government has created an exhaustive structure to cleanse the River. The Central Ganga Authority, an official apex body involved in the cleansing operation, is headed by the Prime Minister and meets once a year to make policy decisions, draw up programmes and assess progress. There is also a steering committee headed by the Secretary to the Ministry of Environment And Forests. In addition to various experts, the committee also includes chief secretaries of the three concerned states - UP, Bihar and West Bengal - and representatives of concerned ministries. Its main task is to financially manage and execute various cleaning projects. The executing agencies include the municipal bodies of concerned cities. Post formation of Ministry of Jal Shakti in May 2019, the entire effort of River Ganga Rejuvenation has come under this Ministry. Some of the projects taken up by the successive governments are described in the following paragraphs.

The Ganga Action Plan (GAP)

To address the issue of river water pollution, the GAP was launched by Shri Rajeev Gandhi, the then Prime Minister of India on 14 Jan 1986 with the main objective of pollution abatement. It was to improve the water quality by interception, diversion and treatment of domestic sewage, toxic industrial chemicals and biological wastes from polluting units entering into the river. Initially the GAP got delayed by two years due to various administrative reasons, which resulted into anticipated expenditure ballooning to almost double. Between 1985 and 2000, around US \$226 million were spent on the GAP. This initiative, which was considered to be “the largest single attempt to clean up a polluted river anywhere in the world”, did not fetch the desired results. A study brought out that much of expenditure was wasted on propaganda. The lethargy on the part of executing agencies kept the cost going up. Release of the urban and the industrial waste was never seriously controlled. Pace of construction of Sewage Treatment Plants (STP) and diversion of sewage through these plants was not seriously taken up and raw sewage kept getting drained into the River. Use of river plains as open defecation area and burning of dead bodies on river banks continued unabated. Use of river for washing of clothes, throwing of half burnt bodies into the River and immersion of idols after religious functions continued, adding to the pollution levels in the river.

In the upper reaches, people continued to check the flow of waters from the springs to the river resulting in increase in the quantum of sewage getting discharged into the river. Based on its delivery of results, the scheme is said to be a failure. Some of the reasons according to a study were: rampant corruption; lack of will on the part of people who were entrusted to take the plan to fruition; poor technical expertise and environmental planning; and even more appalling, the pace of execution not being able to keep pace with the mounting pollution levels due to exponentially rising population. A rigid mindset on the part of religious authorities about certain religious practices which have got warped over a period of time in today's environment needed to be addressed.

The programme of river cleaning was extended to other major rivers of the country under two separate schemes of GAP Phase - II and the National River Conservation Plan (NRCP). Yamuna and Gomti Action Plans were approved in April 1993 under Ganga Action Plan Phase - II. Programmes

of other major rivers were subsequently approved in 1995 under the NRCP. After launching of NRCP in 1995, it was decided to merge GAP II with NRCP. A notification of this effect was issued on 05 Dec 1996. Both, GAP-1 and GAP-II fared poorly as far as implementation is concerned. Quite a few timelines were never adhered to. Finally, the projects included in both GAP-1 and Gap-II have now been made part of the 'Namami Gange Project'.

The National Ganga River Basin Authority

In November 2008, in another attempt to upgrade the quality and utility of river, River Ganga was declared a 'National River', thus facilitating the formation of a National Ganga River Basin Authority (NGBRA) with the mandate to plan, implement and monitor measures aimed at protecting the River. The NGRBA was established through a Gazette Notification of the Government of India (Extraordinary) No. 328 dated February 20, 2009, and issued at New Delhi with the following objectives:-

- Ensuring effective abatement of pollution and conservation of the River Ganga by adopting a river basin approach
- To promote inter-sectoral co-ordination for comprehensive planning and management; and
- Maintaining environmental flows in the River Ganga with the aim of ensuring water quality and environmentally sustainable development.

National Ganga River Basin Authority is a financing, planning, implementing, monitoring and co-ordinating authority for the Ganges River, functioning under the Water Resource Ministry. However, even this failed to improve the quality of water which flagged another issue, that of the lack of ownership of the idea of 'Clean Ganga' by the stake holders. People affected never felt that it was in their interest that these schemes should become a success.

Namami Gange

In July 2014, the Government of India announced an integrated Ganges development project titled 'Namami Gange'. With a budget outlay of Rs 20000 crores, it had to accomplish the twin objectives of effective abatement of pollution and conservation and rejuvenation of the National River Ganga. Some work indeed has been done to address the pollution and improve the navigability of the River and quality of its water by building a number of crematoriums on the banks, dredging the river to improve navigability between Varanasi and Kolkata, building STPs to reduce discharge of raw sewage into the river, and building of large number of toilets in the habitations along the River to reduce the discharge of fecal matters into the River. The areas in which work is being done are as follows:-

- Creation of sewage treatment capacities. Projects are under implementation and 12 additional sewerage management projects with the view to create additional facility to treat 1187.33 MLD capacity have been launched.
- River front development. 28 river front development projects and 33 entry level projects for construction, modernisation and renovation of 182 ghats and 118 crematoria has been initiated.

- River Surface cleaning for collection of floating solid waste from the surface of ghats and the River and its disposal are afoot and pushed into service at 11 locations.
- Five bio-diversity centers at Dehradun, Narora, Allahabad, Varanasi and Barrackpore have been developed for regeneration of identified priority species.
- Forestry interventions for Ganga are being executed as per the detailed project report prepared by Forest Research Institute, Dehradun, for a period of five years (2016-2021) at a cost of Rs.2300 crore. Work on medicinal plants has been commenced in seven districts of Uttarakhand.
- Public awareness is an important activity to ensure public participation in the campaign. All possible means of mass media, entailing print, social and digital media is being attempted to generate awareness, besides organising meetings, exhibitions, seminars etc.
- Industrial effluent monitoring of 1072 number of Grossly Polluting Industries (GPIs) were identified in April, 2019. Regulation and enforcement through regular and surprise inspections of GPIs is carried out for compliance verification against stipulated environmental norms. The GPIs are also inspected on annual basis for compliance verification of the pollution norms and process modification, wherever required, through third party technical institutes.
- Ganga Gram Project is instituted in 1674 panchayats in five states (Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal). A number of Indian Institutes of technology (IIT) and other non-governmental organisations (NGO) have been incorporated in the project. A concept of adoption of villages by the IITs has also been introduced with the twin objectives of generating awareness and helping to create infrastructure to have a clean villages which do not release polluting waters into the River.

However, the pace of implementation, at best, can be described as sluggish. Only 35 of 86 planned STPs have been built in five years. Similarly, instead of 4031.41 km of sewer network, only 1114.75 km could be built in first three years. The incidence of water borne diseases is still quite high at 66 percent of all diseases per year. Recent studies by the Indian Council of Medical Research (ICMR) brings out that the River is so full of killer pollutants that those living along its banks in Uttar Pradesh, Bihar and Bengal are more prone to cancer than anywhere else in the country. Conducted by the National Cancer Registry Programme under the ICMR, the study throws up shocking findings, indicating that the River is thick with heavy metals and lethal chemicals that cause cancer. Heavy metals, in particular, cause abiding threat to human health. Exposure to heavy metals has been linked to developmental retardation, kidney damage, various cancers, and even death in instances of very high exposure. In fact, in the last five years the pollution level in the river has also gone up. A Comptroller and Auditor General (CAG) report disclosed that the level of pollutants in the River across Uttar Pradesh, Bihar and Bengal was six to 334 times higher than the prescribed levels during the period 2016-17. These findings have been confirmed by an Right to Information (RTI) reply.

As Ganga water cleaning was conceived as a major people's movement, district level task forces were set up with official and non-official members. Task forces headed by either the divisional commissioner or the district magistrates act as watch-dogs in addition to suggesting the most effective cleansing and maintenance measures. The Ganga Project Directorate (GPD) emphasises NGO involvement in popularising the programme and encourages them to make alternate suggestions. A number of NGOs have also been active, though on a smaller scale, in arousing popular consciousness and analysing the official clean-up measures. Some of the important NGOs are as follows:-

- The Indian National Trust for Art and Cultural Heritage (INTACH), having branches in the major cities on the Ganga banks, is associated with the cultural restoration of the river and extends assistance, including financial support, to those active in this area.
- The Ganga Maha Samiti has been active for 10 years and has frequently taken up the authorities on specific cases of pollution in the Kanpur stretch of the river. About three years ago, it also undertook a small dredging operation with popular participation to divert Ganga water to the Kanpur ghats.
- The Central Citizens' Forum, is another group actively involved in issues like urban sanitation, as it affects river pollution.
- Sankat Mochan Foundation is a Varanasi based organisation headed by Prof Vir Bhadra Mishra of IIT, Benaras Hindu University (BHU) has done pioneering work in creating mass awareness. It has among its members a large number of scientists and technical experts from various departments of the BHU. Recently, the Foundation also set up its own Swachha Ganga Laboratory to regularly monitor the river water quality in Varanasi. Ganga Forum has the objective of making Ganga pollution free. Eco-Friends, an NGO, in conjunction with the World Wild Life Fund (WWF) have formed a Ganga Forum to save the river.

The Calcutta based All India Institute of Public Health and Hygiene has been commissioned by the GPD to monitor the diseases, particularly water-borne and water-washed ones, among people who live along the Ganga. For this, the institute is focusing on the illness levels of two population groups; those who physically live on the river banks and a control group of those who intensely interact with Ganga water.

The Way Ahead

It goes without saying that if efforts of government are to succeed to rejuvenate River Ganga, a well planned initiative run by a highly committed team, whose members are professionally competent and emotionally attached to the idea of rejuvenation of the River, is a pre-condition for the assured success. It may further be considered that such projects succeed only if they become a mass movement. So far the Clean Ganga initiatives have, at best, been only partial success as they were run as Government projects in which people considered themselves only as beneficiaries and not the stake holders. The Government should go ahead with the infrastructure development, afforestation of the catchment area, removal of encroachment from the river plains, enforcement of rules and regulation and implementation of the plans in a time bound manner. The Government also needs to ensure that the laws, rules and regulations to ensure cleaning and environment sustainability are

tweaked from time to time to respond to the emerging new ground realities and also their strict compliance.

However, this endeavour would be successful only if it becomes a people's movement; that currently is far from satisfactory. It can become a mass movement only if people start thinking in terms of being stake holders. Lots of mythical and traditional practices will have to be shunned for people to become part of this movement. Also, migratory tendencies of people need to be reversed. It can happen only if people become conscious of the danger which polluted Ganga and the ever depleting fresh water that is likely to pose to them in near future. Simultaneously, green laws will have to become more stringent to initially put a fear of law in the minds of people in case they continue to pollute the river.

A mass campaign to generate awareness among the people about the disaster that the Ganga water has turned into, which once was considered as *Amrut*, needs to be taken up with desired emphasis. This campaign needs to be on the lines that not only it is the duty of the current generation to clean River Ganga for their own good, but it has also to be a commitment of the current generation towards the future generations - to leave a Ganga which is clean, pristine and is suitable to ensure their good health and to quench their thirst.

Conclusion

The malaise which River Ganga suffers from is not a unique phenomenon; almost every river in India suffers from such malady. While the Government has been taking steps to improve the matter for more than three decades but success has been quite limited. To make matters worse, the demand on rivers is rising on account of rise in population, use of highly water intensive crops and many other reasons. In the series of items demanding higher use of water, the latest is the need for additional water due to India opting for an Open Defecation Free (ODF) society. This latest demand, while on its own is quite substantial, but unless comprehensively managed it will also add to the contamination of the water table .

Pollution of water bodies is not only a function of higher human load but also on account of technology dependence and lack of awareness amongst the masses about the ill effects of pollution, but the most important factor is the indifference of the society about preservation and conservation of the water bodies. A case in point is that most of the village ponds have been reduced to the state of garbage dumps, and in cities ponds and streams have been vanishing fast due to commercial interests of those who are quite myopic in their attitude. Obviously, the solutions being attempted are not in the right direction.

There is a need to look at the threat on river life more realistically, more comprehensively, and above all, with an eye on future. A scenario buildup for the future will help the decision makers to arrive at a realistic strategy to address the problem. A system of review and the will to do course corrections as and when needed will help the country to save itself for the disaster looming large.

About the VIVEKANANDA INTERNATIONAL FOUNDATION

The Vivekananda International Foundation is an independent non-partisan institution that conducts research and analysis on domestic and international issues, and offers a platform for dialogue and conflict resolution. Some of India's leading practitioners from the fields of security, military, diplomacy, government, academia and media have come together to generate ideas and stimulate action on national security issues.

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