



भारत 2023 INDIA

G20 Primer on Traditional Medicine



वसुधैव कुटुम्बकम् | ONE EARTH • ONE FAMILY • ONE FUTURE

Forum on Indian Traditional Medicine



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Traditional Medicine

One World One Health

One Health is a concept which acknowledges that the health of human beings is closely linked to the health of all living beings and our shared environment. This dates to the ancient times when Acharya Charaka not only recognized the phenomena of “*Lōkasammīta Purush* – the Universe – man continuum” but also its impact on health. This concept has regained importance in recent times. Our ancestors showcased Ayurveda to the world and ‘Vasudhaiva Kutumbakam’ has always been the spirit of India.

Loka Purusha Samya Siddhanta is considered as one of the principles of Ayurveda based on which the functioning of human beings, diseases and their management is understood. The core idea of this theory is humans are a miniature reflection of the universe, what lies in humans is a representation of something similar present in the universe. In other words, Purusha (human) epitomizes the Loka (Universe). Therefore, we humans should not be seen or studied in an isolated manner but in harmony between man and the environment. This association must be recognized to understand the imbalances and find ways to re-establish the harmony.

Health of humans relies on well-functioning ecosystems like clean air, fresh water, medicines, and food security. This balance in ecosystem limits disease and stabilizes the climate. Biodiversity in an ecosystem refers to biological variety in all its forms which is important for human health, productive

*Loka Purusha
Samya
Siddhanta*
लोक पुरुष
साम्य सिद्धांत



livelihood, and for pharmacological sciences. Climate change in the form of extreme weather conditions, droughts, floods, and ocean acidification have resulted in the loss of biodiversity impacting human health worldwide.

Use of natural products is on the rise although synthetic medicines are available for many purposes. Traditional medicines are mainly obtained from medicinal plants supplied through collection from forests and cultivation.

Several factors are responsible for this condition, primarily exponential growth in human population and our close interaction with livestock and wildlife. Human– animal contact has increased, mainly in the form of food that affects both food producers and food consumers. Recently there is surge in zoonotic diseases. Combined effect of all factors has led to climate variability and change in ecosystems, which has contributed to increased vector population and facilitating transmissibility of many diseases.

“One World, One Health,” is based on the understanding that humans, animals, and the environment are inextricably linked, indicating that the world has realized the interrelation between ecology, animal diseases, and public health, striving to restore and maintain harmony and synergy. Numerous countries have also made great efforts to advance Traditional Medicine (TM), as reported by World Health Organization (WHO). These countries have established or developed national and regional policies and regulations to promote the safe and effective use of TM.

The only way to combat these alarming problems is to implement harmonized and coordinated strategies of traditional medicine through effective governance, at international, regional, and national levels. With increasing socioeconomic interdependence and increased mobility between and within countries, health security has become vulnerable to being compromised, with a resultant impact on global health. Global public health security as defined by WHO-“the activities required, both proactive and reactive, to minimize the danger and impact of acute public health events that endanger people’s health across geographical regions and international boundaries.” Efforts have been initiated to unite the entire world through traditional medicine by launching various international initiatives for committed and consorted action.

Traditional Medicine

Promoting Global Social Wellness

*Vasudhaiva
Kutumbakam*
वसुधैव
कुटुम्बकम्



Traditional medicine encompasses a plethora of practices and knowledge systems that have been utilized for millennia to promote health and treat ailments. In many low- and middle-income countries, traditional medicine is the primary form of healthcare for most of the population. World Health Organization (WHO) report estimates that up to 80 per cent of the world's population relies on traditional medicine for their primary healthcare needs. As the leaders of the world's major economies convene for the G20 Summit, it is imperative to contemplate the pivotal role traditional medicine can play in fostering global social wellness. The ethos of *Vasudhaiva Kutumbakam*, meaning "the world is a single family," underscores the interconnectedness of all beings and the significance of working in tandem to create a healthier



and more harmonious world. This philosophy can be applied to the realm of traditional medicine to advance health and wellness for all.

Traditional medicine practices can help to address numerous challenges being faced by contemporary healthcare systems, such as the escalating burden of chronic diseases, the proliferation of antibiotic-resistant infections, and the restricted accessibility of healthcare services in rural areas. Additionally, traditional medicine practices can contribute to advancing medical knowledge and developing new treatments.

To foster global social wellness, it is vital to support the development of traditional medicine services and guarantee that everyone has access to quality healthcare, regardless of their social standing or location. By promoting access to affordable and culturally appropriate healthcare services, we can help mitigate health disparities and ensure that all communities can lead healthy and fulfilling lives.

Moreover, it is equally important to support the preservation of cultural heritage and knowledge. Many traditional medicine practices are rooted in specific communities' cultural and spiritual traditions. By continuing these practices, we can help preserve the cultural heritage of communities and ensure that future generations can benefit from this knowledge. One of the key benefits of traditional medicine is its ability to provide affordable and accessible healthcare services, especially in remote and rural areas. Integrating traditional medicine into the broader healthcare system ensures everyone has access to quality healthcare, regardless of location or social status.



Recently established, the WHO Global Centre for Traditional Medicine (GCTM) at Jamnagar, Gujarat, India, is a knowledge centre for traditional medicine. It has a strategic focus on evidence and learning, data and analytics, sustainability and equity, innovation, and technology to optimize the contribution of traditional medicine to global health and sustainable development. At the same time, respect for local heritages, resources, and rights is a guiding principle. By supporting the development of traditional medicine services and promoting access to affordable and culturally appropriate healthcare, we can help to create a healthier and more harmonious world for all. By embracing the philosophy of *Vasudhaiva Kutumbakam*, we can collaborate to ensure that the world is indeed a single family where health and wellness are accessible to all.



Traditional Medicine

Universal Health Coverage (UHC)



Universal Health Coverage (UHC) aims that everyone should have access to a comprehensive variety of high-quality healthcare services when and where needed, free from financial burden. It includes the complete range of fundamental healthcare services, including palliative care over the life course as well as health promotion, prevention, treatment, and rehabilitation. UHC is firmly based on the 1948 WHO Constitution, which declares health a fundamental human right and commits to ensuring the highest attainable level of health for all.

The provision of these services necessitates the employment of healthcare professionals at all levels of the health system who have access to products of the adequate quality and are fairly distributed. According to the World Health Organization (WHO), the UHC service coverage index (SDG indicator 3.8.1) increased from 45 in the year 2000 to 67 in 2019, but 30 per cent of the world's population still cannot access essential health services.

Currently the mainstream healthcare system is mostly constituted by the conventional modern medicine and public health framework. However, globally, the landscape of Traditional Medicine has shown an upsurge in recognising its significance and potential for public health and many countries are successfully implementing it into the respective national healthcare systems by developing national policies, regulatory frameworks and strategic plans for Traditional Medicine products, practices and practitioners. According to WHO Global Report on Traditional and Complementary Medicine 2019, 88 per cent Member States have acknowledged their use of Traditional and Complementary Medicine (T&CM) which corresponds to 170 Member States. Total 124 member states had implemented regulations on herbal medicines, 109 had launched national laws or regulations on T&CM and 98 Member States had developed national policies on T&CM.

India has a rich heritage of Traditional Systems of healthcare Ayurveda, Siddha, Sowa- Rigpa, Unani and Yoga as codified traditional systems. Studies found that 65 per cent of the population in India especially in the rural areas use Ayurveda and medicinal herbs to meet their primary health care needs.

India has adopted a pluralistic healthcare management system which is a key policy principle of National Health Policy 2017 of India. It suggests that patients who so choose and when appropriate, would

have access to Ayush care providers based on documented and validated local, home and community based practices. The policy envisages as its goal the attainment of the highest possible level of health and wellbeing for all at all ages, through a preventive and promotive health care. It proposes organization of stand-alone to a three dimensional mainstreaming of Ayush services at the level of Public Health Care (Primary, Secondary & Tertiary healthcare). It highlights the promotion of healthy living and prevention strategies from Ayush systems and Yoga in the community. In addition, it recognizes the need for building research and public health skills for preventive and promotive healthcare. It recommends for co-location and integration of Indian Traditional systems of medicine to achieve the aim of Universal Health Coverage through accessible affordable health care.

The Universal Health Coverage largely depends upon many factors which assures a sustainable and equitable infusion of healthcare services. The important components surrounding the UHC are depicted in figure below.



Globally, in this era of rising prevalence of non-communicable disease, chronic disease and aging, the patients and healthcare professionals are calling for the revitalization of the healthcare system with a greater focus on person-centered, individualised care. Further, during recent pandemic times, it is observed that Traditional Systems of Medicine have played a vital role in the mitigation and treatment of COVID-19. Ministry of Ayush had set up Interdisciplinary Ayush Research and Development Task Force for taking up research studies for COVID-19. Ministry of Ayush through its Research Councils and National institutes has undertaken 140 research studies, both prophylactic as well as interventional at various locations across the country. Government of India launched a massive nationwide campaign to distribute its proven polyherbal Ayurvedic drugs Ayush-64 and Siddha drug Kabasura Kudineer in the treatment of Covid 19. The efficacy of these drugs has been proved through robust multi-centre clinical trials.

In order to obtain Universal Health Care, where many countries are seeking to expand coverage of essential health services and also aiming to make their health care systems more robust, in particular after the visibility of their fragile nature during and post pandemic times. Traditional Medicine can be a significant tool, as the local populations frequently perceive it as more readily available, more economical, and more acceptable health care system with an option that balances curative services with preventive and promotive care.

Traditional Medicine

Preventive and Promotive Health with Evidence Based Treatments



“To ensure healthy lives and promote well-being for all at all ages.” is the Sustainable Development Goal 3 (SDG 3) of the United Nations. The 13 targets and 28 indicators of SDG 3 cover and focus on various aspects of healthy life and lifestyle. Traditional Medicine systems of the world offer a comprehensive, whole-person, lifecycle health management framework for society at large that enables the achievement of many of the targets of the SDG 3.

Preventive Health Continuum

Over the years the concept of preventive healthcare has evolved significantly- from mere disease management to lifecycle health management at individual and community level.

The preventive health spectrum includes primordial prevention, addressing broad health determinants starting from an expectant mother so that the foetal health during pregnancy and the life-health potential of her offspring is maximised. Primary prevention aims to prevent personal exposure to health risk factors, inculcation of healthy diet and lifestyle, regular screening for emerging physical and mental health risk factors. Secondary prevention includes procedures that detect and treat preclinical to early-stage pathological changes and thereby control disease progression. Tertiary prevention seeks to soften the impact caused by the disease on the patient's function, longevity, and quality of life once the disease has developed and has been treated in its acute clinical phase. Traditional medicine systems inherently approaches preventive and promotive health from a lifecycle perspective with interventions that are appropriate to the disease stage, the individual, place, time. Further, it adopts a whole-person approach and is culturally sensitive.

Promotive Health

Promotive health is a collaborative, patient-centred process that promotes trust and recognizes patients' self-directed roles and responsibilities in maintaining and restoring health.

Promotive health enables the virtuous cycle of good health & wellbeing characterised by:

- Good Appetite
- Good Metabolism
- Good Sleep
- Clear Excretion
- Clear Senses, Alert
- Cheerful, Optimistic
- Enhanced Immunity
- Vitality

This constitutes the positive definition of good health as opposed to the mere absence of disease symptoms in accordance with the ancient, classical definition of a healthy person in Ayurveda and also according to WHO.

Scope of Traditional Medicine (TM) in Preventive and Promotive Health

There is a rapid epidemiological transition with a shift in disease burden with proportion of deaths due to NCDs (among all deaths) from 38 per cent in 1990 to 74 per cent in 2017.

It is important to appreciate the role that TM systems can play to complete the healthcare value chain, and particularly in primary-secondary-tertiary prevention of NCDs.

Preventive Health and Traditional Medicine

TM systems such as Ayurveda view good health as a state of homeostasis or dynamic balance- between the individual (physical, mental, spiritual dimensions) and his/her environment (physical, mental). Due to inappropriate diet and lifestyle individuals deviate from their innate balanced state leading to a state of imbalance or disease. Traditional Medicine seeks to correct the imbalances and restore harmony through a personalised regimen of (one or more of) diet-lifestyle-herbal and natural medicine-therapies.

Early stage diseases may be reversed simply by ceasing the inappropriate diet-lifestyle habits and through meditation and Yoga therapies such as Pranayama. More serious imbalances resulting in chronic diseases may require a deep system detox e.g., the Panchakarma (5 cleansing therapies in Ayurveda) program personalised to the highest level, preceded by a series of preparatory therapies, and followed by nourishing and energising therapies.

This sequence of therapies leads to restoration of homeostasis, or state of good health, in the individual.

Economics of Traditional Medicine Based Healthcare Services

TM based healthcare services offers the potential to alter the economics of healthcare. High capital investment in conventional medicine facilities to deliver tertiary/quaternary care dictates the trend towards short length of stay- as low as 3 to 4 days on an average, albeit at a high per capita expense. Lower capital investment per bed in TM based healthcare facilities- as low as 5-12 per cent applicable in a modern medicine facility- ensuring that longer length of stay for patients who need such care is economically viable. Since, typically, 60 per cent or more of healthcare demand is non-tertiary/non-quaternary care in nature the movement towards evidence based TM healthcare shall ensure higher healthcare capacity building leading to a healthcare system that is affordable, accessible, acceptable to all.

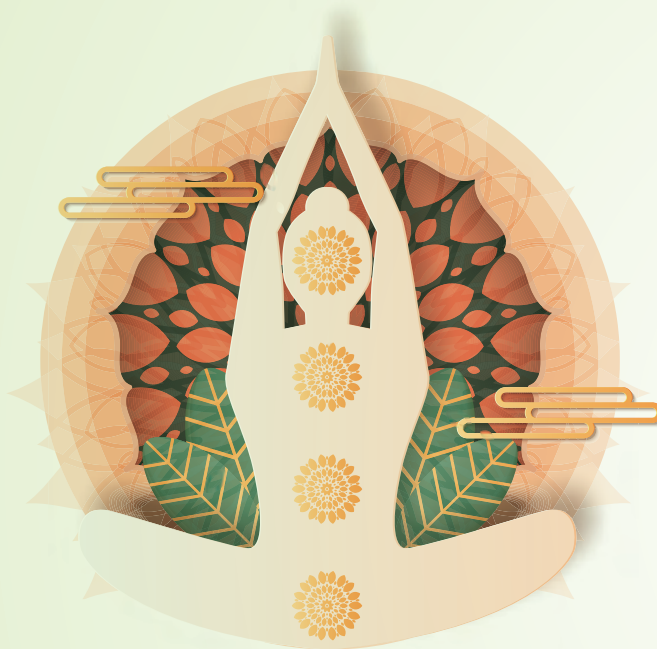
Evidence Based Traditional Medicine

Notwithstanding evidence of use of many of the TM systems over time, scientific evidence needs to be built to establish safety and efficacy of TM interventions. There are inherent challenges to extend and apply current gold-standard clinical evidence approaches to TM. A change in scientific paradigm and research methodology to apply to TM systems has increasingly become vociferous.

It is mandatory that G-20 nations collaborate to develop and align on scientific methodologies to build mutually acceptable evidence for TM systems so that upon validation they are made an integral part of healthcare systems globally so that the people of the world can affordably access full spectrum preventive-curative-promotive healthcare.

Yoga

A Way of Healthy Living



Yoga is a science and a way of living that is intended for a healthy mind in a healthy body. It is one of the best gifts from India to the world, as it has existed in Indian culture for ages. Over the past several years, Yoga has gained popularity, even among medical professionals and in the western world. Yoga is an excellent practice that connects the mind, spirit, and body through meditation, physical exercises (poses or asanas), and controlled breathing.

Lifestyle and Yoga: Lifestyle is how people live, and this has an enormous effect on an individual's health status. Since one's lifestyle has developed early in life, it is advisable to cultivate a healthy lifestyle in early childhood.

Yoga is the perfect lifestyle module as it is comprehensive and holistic in its nature. Yogic lifestyle principles help strengthen and develop positive health, enabling us to withstand stress better. This Yogic “health insurance” has been achieved by normalizing the perception of stress, optimizing the reaction to it, and releasing the pent-up stress effectively through the practice of various Yogic practices. Yoga is a holistic and integral science of life dealing with an individual’s and society’s physical, mental, emotional, and spiritual health.

It is important to adopt a holistic lifestyle and follow a healthy regimen to live a healthy and peaceful life. The modern world is facing a pandemic of lifestyle disorders that require changes to be made consciously by individuals themselves. Yoga places great importance on a proper and healthy lifestyle.

Benefits of Yoga in Daily Life: Daily practice of Yoga bring the following health benefits at ought any cost.



Yoga Research: The scientific study of Yoga has increased substantially in recent years and many clinical trials have been designed to assess its therapeutic effects and benefits. Mainly due to its recognition as a form of mind-body medicine that integrates an individual's physical, mental and spiritual components to improve aspects of health, particularly stress related illnesses. Research studies in Yoga have suggested possible benefits of Yoga for several aspects of wellness, including stress management, mental/emotional health, promoting healthy eating/activity habits, sleep, and balance. Based on the research evidence Yoga has numerous health benefits: studies have shown that regular practice of Yoga helps to reduce blood pressure and improve cardiac output, lung capacity, reduce stress, improve flexibility, enhance strength and endurance, and bring balance in the autonomic nervous system and the endocrine system, which helps to improve mood and behaviour.

Yoga research in mental health related issues has shown 1104 research articles since 1963 to till date on PubMed.



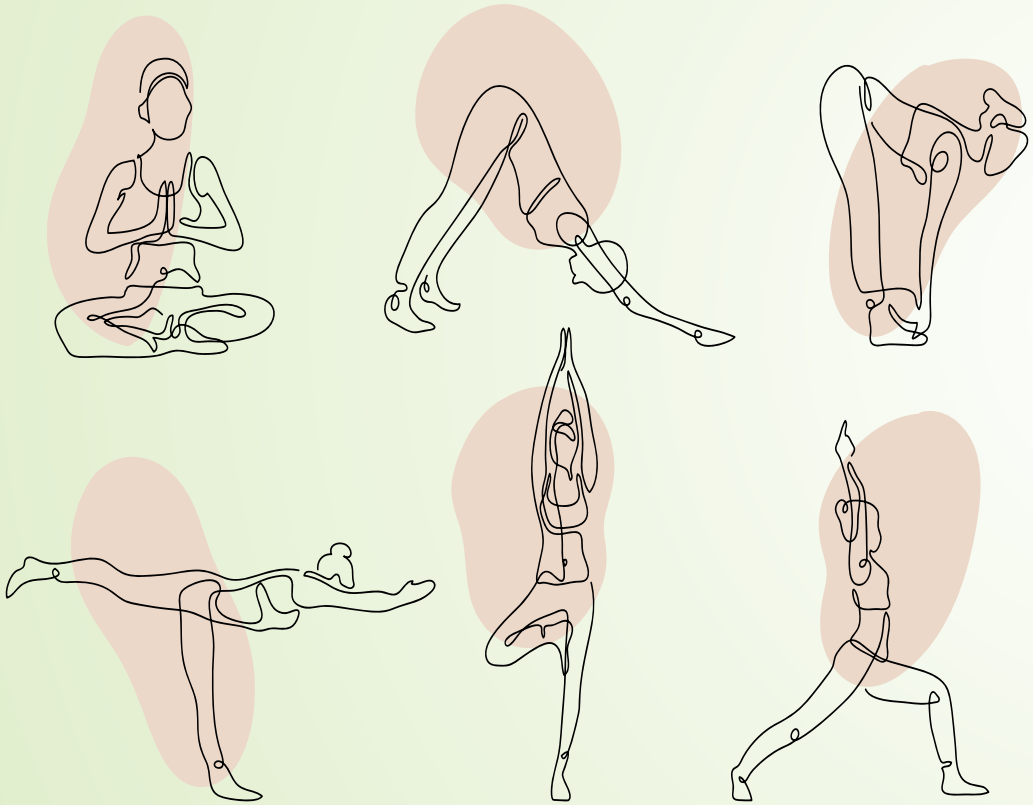
Yoga: A Revolution in the Global wellness/fitness industry:

An analysis report published by Allied Market Research, titled, “*Yoga Market by Type: Global Opportunity Analysis and Industry Forecast, 2021–2027*,” the global Yoga market size was \$37.5 billion in 2019 and is projected to reach approximately \$66.2 billion by the year 2027, registering a CAGR of 9.6 per cent from 2021 to 2027. The offline segment dominates in terms of market share; however, the online segment is expected to register the highest CAGR during the forecast period. India, the birthplace of this ancient practice, has resurfaced in the global market.

The fiscal year 2020-21 has ensured that Yoga and associated terms have made it to the top of web search results. Over the years, the number of practitioners has increased, and the trend continues, making a conscious shift towards Yoga, meditation, and personal well-being. These statements



stand true as a global testament to this industry. According to global statistics, the number of Yoga practitioners worldwide are estimated to be 300 million and about 36 million people do yoga in USA alone. This multi-billion-dollar industry is growing and making strides of its own accord.



Ayush-initiatives:

Activities of Ayush to promote propagate and create awareness on Yoga at national and global level;

- Ayush Health and wellness centers
- International Day of Yoga
- Namaste Yoga App
- Y Break protocol and App
- WHO mYoga App

Yoga is based on the principle that the mind and body are related. Yoga practice can improve the function of a different system of the body, foster psychological well-being, improve the oxygen delivery to tissue, remove the metabolic waste product, carcinogens, cellular toxins; and scientific evidence has begun to emphasize its efficacy. It is now considered a low-cost intervention to control various lifestyle disorders. The main aim of Yoga is to increase parasympathetic and decrease sympathetic activities. It may be further hypothesized that yoga-based practices correct under-activity of the parasympathetic nervous system and gamma-amino butyric acid systems, partly through the stimulation of the vagus nerves, the main peripheral pathway of the parasympathetic nervous system. Yoga enables us to move from a state of ill health or sickness to one of fitness and healthy well-being and living.

Traditional Medicine

Advanced Knowledge through Evidence-based Research



Research is critical to advancing knowledge and understanding in any field, including Traditional Medicine. Around the world, people look up to TM for its holistic approach to health and wellbeing, at the same time, many people are sceptical of its potential. Research can help to provide scientific evidence that supports the use of TM in treating various health

conditions. Research validates its effectiveness, identify any potential risks, new applications, informed policy decisions and guides the development of regulatory frameworks for TM.

Over the years, there has been a significant increase in research and development (R&D) activities in TM. The Government of India has taken several initiatives to promote R&D like establishing research institutes and providing funding for research projects. Here are some of the recent developments:

Standardization and development of Ayush/herbal drugs: to ensure quality, safety, and efficacy. This has led to the development of pharmacopoeial standards and reference materials for Ayush drugs. Researchers are developing new Ayush drugs using modern scientific techniques. For instance, scientists are exploring the use of nanotechnology to improve the bioavailability and efficacy of Ayush drugs. Ayurgenomics approach has also facilitated in deciphering mechanisms of Ayurveda drugs at molecular level which contributed in their repurposing in COVID-19.

Clinical trials: An increase in the number of clinical trials conducted on Ayush treatments and therapies. These trials are helping to generate high-quality evidence on the safety and efficacy of Ayush interventions. For more information <https://ayushportal.nic.in>

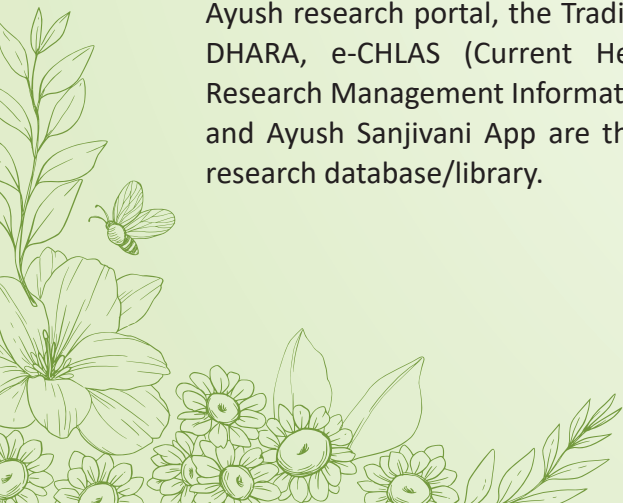
Digital health interventions: helps bring transparency, standardization, drug control, quality control, decision support and continuity of care. For instance, mobile apps and online platforms are being developed to provide personalised Ayush-based healthcare solutions. State-of-the-art methods like Artificial Intelligence and machine learning methods are also being used for identifying patterns and recapitulating the clinical decision-making process of Ayurveda.



Integration of TM with modern medicine: to confront health challenges by facilitating cross-disciplinary communication & research. The Council of Scientific & Industrial Research-Institute of Genomics & Integrative Biology (CSIR-IGIB) Ayurgenomics initiative is now supported by the Ministry of Ayush in the form of a Centre of Excellence since 2018 and resulted in handholding with esteemed organizations like the All India Institute of Medical Sciences (AIIMS) for generating evidence-based data. This led to development of novel integrative frameworks for interoperability with modern medical data.

Research collaborations: various Collaborative researches following an integrative research model for scientific evidence generation of Ayush medicines at Institutions of national repute like CSIR, CIMR, ILBS etc. The Ministry of Ayush has introduced the Scheme of Extra Mural Research to encourage academic and research organizations to pursue research activities with related sciences like Botany, Chemistry, Pharmacy, Pharmacology etc., which will enrich scientific data and may lead to innovations having IPR Value across the country and global level. Ministry has signed 43 Collaborative Research (Institute to Institute) MoUs so far, facilitating new TM-based interventions.

Documentation and scientific evidence generation: Ayush Research Portal has been set up for disseminating Evidence Based Research Data of TM Systems at Global Level. Overall, 38899 research studies in clinical, pre-clinical, drug research, and fundamentals are available. Along with Ayush research portal, the Traditional Knowledge Digital Library (TKDL), DHARA, e-CHLAS (Current Health Literature Awareness Services), Research Management Information system (RMIS), e-Granthasamuccaya and Ayush Sanjivani App are the digital initiatives under the category research database/library.



Also, Ministry of Ayush is conceptualizing National Ayush Research Consortium of Ministry of Ayush, DSIR, DBT and DST in consultation with NITI Aayog to develop an institutionalized system of high end, global standard quality research in Ayush systems. This intends to create a Research Policy Collaboration Model for effective implementation in Policy initiatives and translation of R&D outcomes in public health. All India Institute of Ayurveda and National Institute of Mental Health and Neurosciences (NIMHANS), and other mainstream medical institutes are integrating evidence-based practices in treatment protocols of modern medicine. Another study published by the Department of Psychiatry, University of California San Francisco (UCSF) in 2013, reported that mindful meditation practices, with diet and exercise, may positively impact telomere length and potentially slow the rate of cellular ageing.

The availability of publicly accessible national and global health databases by integrating traditional medicine systems can cater to the development of tailor-made comprehensive interventions targeting Universal health, further contribute to enhance healthcare outcomes.

In conclusion, TM has received increased acceptance and recognition worldwide as a holistic healthcare system. By investing in research, we can continue to expand understanding of TM and its potential benefits for individuals and communities worldwide.

Traditional Medicine

Digital Health Technologies and AI



Digital Health

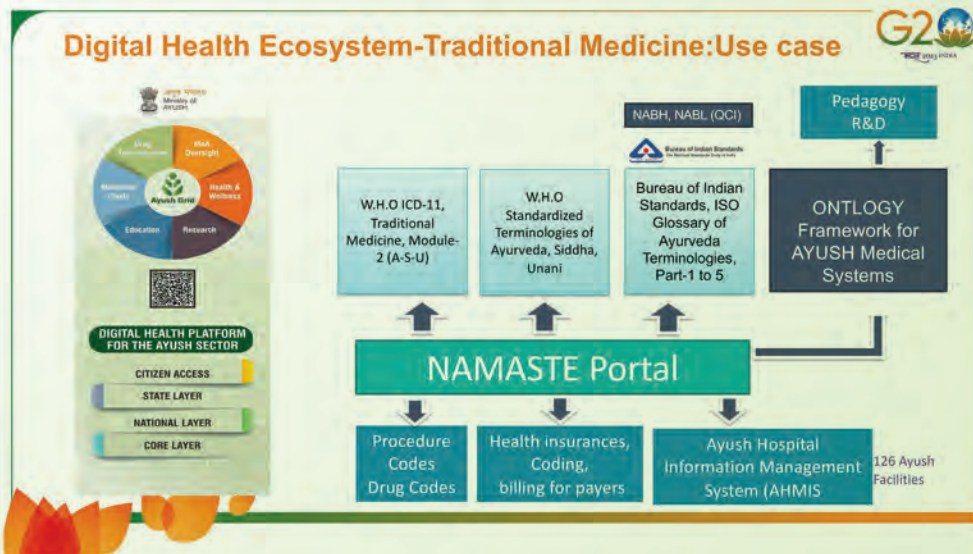
The 2030 Agenda for Sustainable Development highlights that the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, bridge the digital divide and develop knowledge societies.

In this context, digital health should be an integral part of health priorities and benefit people in a way that is ethical, safe, secure, reliable, equitable and sustainable. It should be developed with principles of transparency, accessibility, scalability, replicability, interoperability, privacy, security and confidentiality.

Digital Health and Traditional Medicine

Traditional medicine is a component of health care among G20 Countries viz. Brazil, China, India, Republic of Korea, Saudi Arabia, South Africa, Türkiye, United Kingdom, and among EU Countries have regulations for practice of TM. In other G20 member countries-Argentina, Australia, Canada, Germany, Indonesia, Japan, Mexico have regulatory framework for herbal medicine. USA has a dedicated center National Centre for Complementary & Integrative Health (NCCIH) for the study of traditional, complementary medicine. Catching up with the current times there are efforts to digitize the traditional medicine practices from these countries for academic, research, regulatory purpose and needless to say that digital technology is at forefront of this task.

Further, in recent years, the TM sector has grown in various dimensions and invited a considerable amount of global attraction. To cater to new developments and demands, there is an increase in modern technologies like Artificial Intelligence (AI), Decision Support Systems (DSS) in the following areas:



- Digital, AI technologies to replicate the logical understanding applied in traditional medicine diagnostic methods viz., The utilisation of the big data generated in text, sensor-based data and other relevant parameters to validate traditional medicine (concepts, products, practices) to generate evidence for safe and effective use.
- Use of Electronic Health Records, Personal Health Records, Usage of TM-Terminologies, Morbidity Codes for effective interoperability, data capturing and communication with Current biomedical practice.
- Use of digital health technologies in the supply chain of medicines, supplements and other products based on Traditional Medicine.
- Use of digital health technologies in capacity building, monitoring and evaluation of TM.

Development of Standards to accelerate Use of Digital Health in TM

The efforts of World Health Organization in the domain of standardization, benchmarking of TM along with digital health initiative. Some of significant contributions by WHO include Publication of benchmark documents for training and practice of Ayurveda, Unani, Acupuncture, Naturopathy, WHO international standard terminologies on Ayurveda, Siddha, Unani, Traditional Chinese Medicine. Another milestone in this development is inclusion of traditional medicine morbidity codes under ICD-11. These efforts are paving way for extensive use of TM terminologies and codes as part of electronic health records and aid in pragmatic recording and reporting of health statistics pertaining to TM. Apart from this attempts to include TM standards as part of ICO/TC 215-health informatics is another forward looking step in the direction of usage of digital health technologies in TM e.g. ISO/DTR 4421, Health informatics – Introduction to Ayurveda informatics; ISO/TS 5044, Health informatics – Information model for quality control of traditional

Chinese medicinal products; ISO/TS 5118:2022; Health informatics — Categorical structure of representation for evaluation of clinical practice guidelines of traditional Chinese medicine ISO/TS 5346:2022; Health informatics — Categorical structure for representation of traditional Chinese medicine clinical decision support system.

At national level, India has embraced these developments and developed National Ayush Morbidity and Standardized terminologies electronic (NAMASTE) Portal which led to cascade of developments including development of Ayush Hospital Information Management System (AHMIS). Now, Ministry of Ayush has a dedicated Ayush Grid cell to coordinate the adoption of digital health solutions in Ayush domain. As part of grid activity World Health Organization (WHO) has developed the mYoga app to encourage people to practice quality yoga at the touch of their smartphone screen. The app was developed through review of scientific of literature and extensive international expert consultation processes. Release of the 'Telemedicine practice guidelines for Ayurveda, Siddha and Unani practitioners', Telemedicine practice guidelines Enabling Registered Homoeopathic Practitioners to Provide Healthcare Using Telemedicine by Ministry of Ayush is an effective enabler in adoption of Information and Communication Technology (ICT) in patient care using TM. India is acting as topic driver for the development of benchmarking policy document for responsible use of AI in the TM under the aegis of AI4Health working group constituted by International Telecommunications Union (ITU) and WHO.

The list of such initiatives is exhaustive and G20 countries are here to play major role to play in steering these developments towards achieving Integrative Holistic Health (IHH) all over the world. Hence, G-20 under India's presidency becomes a suitable platform for the deliberations on "Safe, Effective use of Digital technologies and AI" in traditional medicine to ensure smooth transition towards achieving one world one health through IHH.

Traditional Medicine

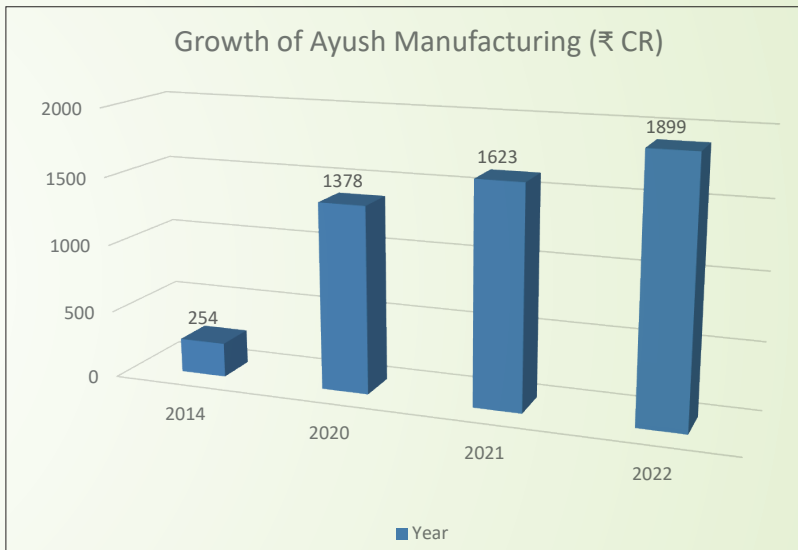
Trajectory of Traditional and Complimentary Medicine Industry



There is a huge transition observed in health seeking behavior among public towards Health and wellbeing in the past years. The T&CM market has seen an exponential rise during the COVID Pandemic. The rising awareness regarding the pros of Traditional Medicine and increasing demand contributed for the substantial growth in the sector. Nearly 80 per cent of the global population makes use of traditional medicines, creating a conducive environment for growth.

Ayurveda and other traditional systems have been practiced in India since ancient times. In India, herbal products are used as primary medicine for a wide range of ailments by a large segment of the population. The safety and efficacy

of herbal medicines are credited with the widespread use of traditional and complementary medicine. Sanjivani mobile app study done by Ministry of Ayush, Government of India also substantiated the fact that a large proportion (85.2 per cent) of the representative population practiced Ayush measures across different geographic locations of the country during the COVID-19 pandemic and benefitted considerably in terms of general well-being, with a positive impact on their quality of life and specific domains of health.



Source: Ministry of Ayush.

The Market size of traditional health care systems in India has witnessed an exponential growth (17 per cent) from 2014 to 2020. Ayush industry has witnessed considerable growth in market size since the up-gradation of Department of Ayush to Ministry of Ayush in the year 2014.

Ayush Industry Over the Years

Study	Year	Size of Industry
Ved and Goraya, 2017 (Ayurveda)	2014-15	USD 2.85 Bn
CII, 2018 (Ayurveda)	2016	USD 3 Bn
CII, 2020 (Ayush)	2020	USD 15 Bn
RIS-FITM, 2020 (Ayush)	2020	USD 18.1 Bn

Source: Ayush Sector in India: Prospects and Challenges, RIS-FITM, 2020.

Despite debilitating impact of COVID-19 in the health economy, it triggered an unprecedented Ayush market growth to 6 times that of 2014. Drawing inference from these reports it is evident that Ayush industry is poised to experience progressive growth trajectory at the national as well as international level in the near future.

The encouraging regulatory framework and supporting policy structures contribute to the Ayush sector's broad-based economic, sustained, and sustainable growth. Through the Global Ayush Investment and Innovation Summit (GAIIS)-2022, the sector has reached a watershed moment in its development history, capturing the inclusive national and global market. Our Hon'ble Prime Minister emphasized the importance of the Ayush Industry's growth and encouraged startups, entrepreneurs, and members of the industry, to increase investment for innovation in Ayush as the sector continues to showcase colossal room for growth.

Ayush industry in India offers tremendous potential for exports. Furthermore, proximity to raw materials, ancient heritage of nature-based science including Ayurveda, technical expertise to lead research and product innovations are all advantages that India has, and we must capitalize on them to manufacture

more value-added products for both domestic consumption and boost exports. The market is expected to gain traction in the coming years as a result of the changing regulatory landscape and robust regulatory reforms, resulting in the formation of strong transnational partnerships among countries around the world for collective initiatives regarding traditional medicine, followed by its adoption and growth. Rising consumer preferences for natural products and gentle therapies are one of the key factors driving global demand for Traditional and Complementary Medicine. It is gaining widespread recognition and acceptance owing to its holistic approach for Health and wellbeing including Therapeutic care. The growing prevalence of Non-Communicable diseases, along with the rising geriatric population, is also positively influencing the market.

Furthermore, expanding government initiatives and activities contribute to the global T&CM industry's growth and development. Governments around the world are establishing advantageous rules and legislation for manufacturing and marketing processes, which is propelling global industry growth. The support and guidance for Policy development and implementation is expected to address critical gaps in the existing system, allowing for the most effective utilization of the vast untapped potential of the T&CM sector. The sector requires a multifaceted approach, ranging from institutional initiatives to massive awareness and promotion of medicinal plant cultivation by farmers, to trade-related interventions and quality focused measures. Some measures that may be required to increase global trust in the brand Ayush include strengthening domestic standards subscriptions, ensuring traceability of the value chain, and developing global standards with international standard bodies.

Notable Achievements of Ministry of Ayush

- Establishment of WHO- Global Center for Traditional Medicine (WHO - GCTM):** An outpost of WHO Headquarter at Jamnagar India: Establishment of WHO Global Centre for Traditional Medicine in India was announced by Director General-WHO in the presence of Hon'ble Prime Minister of India on Ayurveda Day, 13th November 2020 with a vision "Traditional Medicine for improving global health and achieving Universal Health Coverage". Foundation stone of WHO Global Centre for Traditional Medicine was laid in the presence of Hon'ble PM, Hon'ble PM Mauritius, and DG-WHO in April 2022 and an interim office of WHO GCTM has been made functional. This is the first UN outpost in a developing country.
- Global Ayush investment and Innovation Summit, 2022:** Indicative investment as per the Lol's received by the Ministry of Ayush, stands at INR 9,013 Cr by Indian investors from different domains like FMCG, Pharma, Service Sector, etc. In addition, the Lol's submitted also suggest an indicative incremental employment generation of 5,35,900 jobs, and the initiatives/investments indicated through the Lol's are estimated to impact 7,570,100 lives positively.
- A conducive ecosystem for start-ups:** MSMEs emerging in the Ayush sector, spurring massive innovation in the currently developing Ayush sector. At present there are about 38,000 MSMEs in Ayush as per MSME's Udyam Portal.

- Exponential growth in Ayush Market:** Ayush industry has witnessed considerable growth in market size since the upgradation of Department of Ayush to Ministry of Ayush in the year 2014. Ayush manufacturing industry was INR 21,697 crores (USD 2.85 Bn) in 2014-15 and in the latest study of RIS of 2020, the Ayush manufacturing industry size has been estimated at INR 137,800 crores (USD 18.1 Bn) that is 6 times rise in 7 years.
- R&D initiatives in COVID 19:** Total 150 research studies have been done in Ayush systems. Based on R&D outcomes “one Ayurveda and one Siddha Medicine” was successfully repurposed for management of COVID 19 and provided to the public across the country at large. Total of 63 Research Publications are available in reputed Journals, 33 are available in preprints and 40 are in different levels of publications.
- Massive response from public towards Ayush:** COVID 19, as per the study published in PubMed indexed Journal JMIRx Med (impact factor 4.67). In 2021, a mobile application ‘Ayush Sanjeevani’ based impact assessment study undertaken by the Ministry of Ayush, to study the effect of Ayush Advisory and other Ayush interventions and practices during COVID 19. A total of 1.33 crore data was recorded and data of 723,459 respondents were analyzed, it shows that 85.1 per cent of the respondents reported use of Ayush measures and 89.8 per cent respondents agreed to have benefitted from the practice of Ayush advisory.
- Ayush medicine provided to front line workers and helped reduced incidence of COVID among them:** As per a study published in Frontiers in Public Health (impact factor 5.99) percentage of COVID-19 IgG positivity was significantly lower in the Delhi Police group (17.5 per cent) who were provided Ayurakhsa kit by All India Institute of Ayurveda as compared to the control group, General Delhi Population (39.4 per cent , $p = 0.003$), indicating the lower risk (55.6 per cent) of COVID-19 infection in the

Delhi Police group, further there was decreased incidence (5.05 per cent) and reduced mortality percentage (0.44 per cent) of COVID-19 among Delhi police officers during peak times of the pandemic.

- **Yoga promotion by WHO:** WHO in collaboration with MoA launched WHO mYoga app to demonstrate Common Yoga Protocol (CYP) for wellness and for global use for correct practices of yoga under 'Be He@lthy, Be Mobile' initiatives
- **WHO on Ayush systems:** Benchmark for training and treatment in Ayurveda, Yoga and Unani System of Medicine has been published.
- **Ayush in International Classification of Disease:** Ministry of Ayush supported for inclusion of Ayush Morbidly and standardized codes for inclusion in second Module of Traditional Medicine Chapter of ICD-11, consensus on Alfa draft is made among member countries in record time and work on beta draft is in progress. This will open opportunity for documentation, recording, study of TM at global and for promoting commerce and positioning Ayush in different parts of the world.
- **Ministry established Yoga Certification Board:** In 2018 for certification of Yoga professionals, 71 institutions have been accredited, 25081 Yoga teachers, 47822 Yoga volunteers, and 69053 Yoga professionals have been certified.
- **Huge response on International Day of Yoga globally:** International Day of Yoga (IDY) 2022 saw many new initiatives, the 'Guardian Ring' program, which is collaborative exercise between 79 countries and United Nations organizations along with Indian Missions abroad to illustrate Yoga's unifying power that surpasses national boundaries. The events organized on IDY 2022 saw a massive participation of around 22.13 crore individuals. The global outreach through the Ministry of Ayush's initiatives, with various stakeholders, was around 125 crores.

- **Stronger presence in ISO of Ayush:** A dedicated Working Group (WG 10 – Traditional Medicine) created in ISO under ISO/TC 215 – Health Informatics to formulate International Standards on Ayush Informatics
- **Increased awareness and interest in formal Ayush education in different countries:** At present for academic year 2022-23, 277 students from 32 countries are taking Ayush education in different institutes under Ayush fellowship scheme.
- **Leadership to India in AI Talking Group for Traditional Medicine at WHO/ITU-Focus Group on AI in Health:** Talking Group (TG) for AI for traditional medicine has been formed under Focus Group on Artificial Intelligence for Health (FG-AI4H) at WHO/ITU-Focus Group on AI in Health. Ministry of Ayush would lead this work together with other traditional medicine partners.
- **Effective Documentation of Research in Ayush:** Huge repository of extensive research works by various stakeholders in Ayush is created online at a dedicated website: Ayush research portal, cataloguing 37639 research publications. The portal is actively management by CCRAS, Ministry of Ayush and is made in a searchable format and includes publications in indexed journals. This provides a showcase of evidence-based Ayush systems and a ready solution of researchers and academicians.
- **Advanced R&D through Ayush based fundamentals:** Under Centre of Excellence of MoAyush at Institute of Genomics and Integrative Biology (IGIB) CSIR, relation of Ayurveda Prakriti is made with the Genome sequence, making it a landmark study toward personalized preventive and predictive medicine, they are also getting promising outcomes on Gut Microbiota and working on advance biology of metabolomics, Proteomics etc. to shape the future of healthcare sector.

National Policies on Traditional & Complementary Medicine

The WHO's Thirteenth General Programme of Work (GPW13) came into effect this year, defining organisation's strategy for the five-year period, i.e. 2019–2023. As a strategic priority, GPW13 sets an overarching goal of reaching 3 billion more people, to move towards Sustainable Development Goal 3 (SDG 3) – ensuring healthy lives and promoting well-being for all at all ages – by achieving universal health coverage (UHC), addressing health emergencies and promoting healthier populations. Traditional and complementary medicine (T&CM) can make a significant contribution to the goal of UHC by being included in the provision of essential health services. The Declaration of Astana, adopted at the Global Conference on Primary Health Care in October 2018, made clear that the success of primary health care will be driven by applying scientific as well as traditional knowledge and extending access to a range of healthcare services, which include traditional medicines.

In 2005, WHO published a report on national policies on Traditional Medicine and regulation of herbal medicines, based on the first global survey on T&CM. To identify global trends and the current situation in the area of T&CM, the WHO conducted a global survey during 2010–2012 (second survey), and a further survey during 2016–2018 (update survey). This made it possible to compare the information and data in the two most recent surveys with those in the first global survey, and thus identify global trends.

Globally, the landscape for T&CM has been improving consistently. In line with the WHO, Traditional Medicine Strategy 2002–2005 and the WHO Traditional Medicine Strategy 2014–2023, and relevant World Health Assembly resolutions, Member States took steps between 2005 and 2018 to promote the safety, quality and effectiveness of T&CM. They also took steps for the appropriate integration of T&CM into health systems (particularly health services) by developing national policies, regulatory frameworks and strategic plans for T&CM products, practices and practitioners. Based on current information, 88 per cent Member States have acknowledged their use of T&CM, corresponding to 170 Member States.

For more information about the status of Traditional & Complementary Medicines in G-20 countries, kindly refer to 'WHO Global Report on Traditional and Complementary Medicine 2019'

Source: <https://apps.who.int/iris/bitstream/handle/10665/312342/9789241515436-eng.pdf?sequence=1&isAllowed=y>

Important Links

- **Ministry of Ayush**
<https://main.ayush.gov.in/>

Institutes

- **National Institute of Ayurveda (NIA), Deemed-to-be-University (De-novo Category):**
<https://www.nia.nic.in/>
- **National Institute of Naturopathy(NIN), Pune:**
<https://ninpune.ayush.gov.in/>
- **National Institute of Unani Medicine (NIUM), Bangalore:**
<http://www.nium.in/>
- **National Institute of Siddha (NIS), Chennai:**
<https://nischennai.org/main/>
- **National Institute of Homoeopathy (NIH), Kolkata:**
<https://www.nih.nic.in/>
- **Institute of Teaching and Research in Ayurveda(ITRA), Jamnagar:**
<https://itra.ac.in/>
- **Rashtriya Ayurved Vidyapeeth (RAV), New Delhi:**
<http://www.ravdelhi.nic.in/>
- **Morarji Desai National Institute of Yoga(MDNIY), New Delhi:**
<http://www.yogamdniy.nic.in/>
- **North Eastern Institute of Ayurveda and Folk Medicine Research (NEIAFMR), Pasighat East Siang District:**
<https://neiafmr.org.in/>
- **North Eastern Institute of Ayurveda and Homoeopathy(NEIAH), Shillong:** <http://neiah.nic.in/>
- **All India Institute of Ayurveda (AIIA), New Delhi:**
<https://aiia.gov.in/>

Research Councils

- **Central Council for Research in Ayurvedic Sciences (CCRAS):**
<http://ccras.nic.in/>
- **Central Council for Research in Yoga and Naturopathy (CCRYN):**
<http://ccryn.gov.in/>
- **Central Council for Research in Unani Medicine (CCRUM):**
<https://ccrum.res.in/>
- **Central Council for Research in Siddha (CCRS):**
<https://siddhacouncil.com/home/>
- **Central Council for Research in Homoeopathy (CCRH):**
<https://www.ccrhindia.nic.in/>

Various initiatives

- **Yoga Certification Board (YCB):**
<https://www.yogaexam.in/>
- **WHO benchmark document:**
<https://www.who.int/publications/i/item/9789240042674>
- **WHO TM strategy document (2014-2023):**
<https://www.who.int/publications/i/item/9789241506096>
- **Global survey document:**
<https://apps.who.int/iris/handle/10665/43229>
- **Global Centre Traditional Medicine (GCTM):**
<https://www.who.int/news/item/25-03-2022-who-establishes-the-global-centre-for-traditional-medicine-in-india#:~:text=Around per cent 2080 per cent 25 per cent 20of per cent 20the per cent 20world's,traditional per cent 20medicine per cent 20practices per cent 20and per cent 20products.>

Permanent Invitees of G20

Country

- Spain

International Organizations

- United Nations (UN)
- International Monetary Fund (IMF)
- World Bank (WB)
- World Health Organization (WHO)
- World Trade Organization (WTO)
- International Labour Organization (ILO)
- Financial Stability Board (FSB)
- Organization for Economic Co-operation and Development (OECD)
- African Union (AU)
- African Union Development Agency (AUDA-NEPAD)
- Association of Southeast Asian Nations (ASEAN)

Guests Countries & International Organizations (G20 India Presidency 2023)

Country

- Bangladesh
- Egypt
- Mauritius
- Netherlands
- Nigeria
- Oman
- Singapore
- UAE

International Organizations

- International Solar Alliance (ISA)
- Coalition for Disaster Resilient Infrastructure (CDRI)
- Asian Development Bank (ADB)

G20 Member Countries



Australia



Argentina



Brazil



Canada



China



EU



France



Germany



India



Indonesia



Italy



Japan



Mexico



Russia



South Africa



Saudi Arabia



South Korea



Turkey



USA



UK



About FITM

The Forum on Indian Traditional Medicine (FITM) is a joint initiative by the Ministry of Ayush and Research and Information Systems for Developing Countries (RIS). The Forum has been established with a broad objective to undertake/commission/promote studies on sociology, economy, political-economy, value chain, trade & investment and international cooperation in traditional medicines; prepare policy and strategy responses on emerging national and global developments; provide critical inputs such as policy briefs, briefings and reports to the Government of India; and to facilitate interactions with experts, stakeholders and policy-makers from India and abroad. It facilitates policy discussions/Consultations and talks by national and international subject experts. FITM also provides fellowships and scholarships for studies in the area of traditional medicines.



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