



Healthy City Planning and Traditional Medicines: Learning from International Experiences

Introduction

Urbanization is a phenomenon of industrial and economic growth that reflects the change from the predominance of primary sector of economic activities such as agriculture, mining, basic production technologies to industrial manufacturing and infrastructure dominated secondary sector and also on to the service dominated tertiary sector. The United States (US) National Library of Medicine describes the same as “the process whereby a society changes from a rural to an urban way of life. It also refers to the gradual increase in the proportion of people living in urban areas.”¹ This process has gathered momentum in the twentieth century and is proceeding at a faster pace in the twenty-first century. As per the United Nations Organisation (UNO), less than 15 per cent of world population lived in cities when the twentieth century began, but by 2007, there were more urbanites than rural people, and now (2018), 55 per cent of the world’s population dwells in cities.² The trend is likely to

continue at high speed in the future, particularly in the developing countries. As per the World Bank, 70 per cent of world population will be living in cities by 2050. The BRICS countries are also rapidly urbanising. It is home to nearly 40 per cent world urban population.³ In Brazil, Russia and South Africa urban population have already crossed the half way mark and have 86, 74 and 66 percentages of their population respectively are urbanites, as per World Bank.⁴ In China, urban population is now 58 per cent. India has reached 33.54 per cent urbanisation by 2017,⁵ and as per the UN projections, it is likely to reach 46 per cent by 2030.⁶

Urbanisation brings in its wake a number of health related challenges, particularly health problems connected to the increase in the number of persons getting affected with asthma, diabetes, cardiac problems and mental disorders. The higher levels of pollution that are prevalent in cities result in high incidence of asthma and bronchial

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- ¹ <https://meshb.nlm.nih.gov/record/ui?name=Urbanization>
- ² <https://esa.un.org/unpd/wup/Publications/Files/WUP2018-KeyFacts.pdf>
- ³ Aijaz Rumi, Smart Cities Movement in BRICS, 2017, ORE, p.10.
- ⁴ Data.worldbank.org.
- ⁵ <https://www.statista.com/statistics/271312/urbanization-in-india/>
- ⁶ Ministry of Health and Family Welfare, National Urban Health Mission Framework for Implementation, New Delhi, 2013.
- ⁷ <http://www.wipro.who.int/china/mediacentre/factsheets/healthy-cities/en/>.
- ⁸ http://www.who.int/healthy_settings/types/cities/en/
- ⁹ <http://www.who.int/healthpromotion/conferences/9gchp/healthy-cities/en/>.

problems. Studies have shown that traffic-related pollution, which is quite high in cities, causes many allergies. The change in life styles from a rural one to an urban one is the cause of higher levels of Type 2 diabetes and cardiac diseases. In many countries, the consumption of fresh fruits and vegetables is less in urban areas than in the rural areas. This, when coupled with a higher consumption of processed foods and sugared drinks like colas, and also a more sedentary life with less physical activity, leads to obesity, a major factor for diabetes and related chronic diseases and an increase in heart diseases. Mental health is, many a times, a major casualty of urban life. The support available in traditional societies with their large extended families and relaxed work culture is non-existent in most urban societies. This social disintegration and disorganization often causes increased mental stress and consequential psychological disorders.

Another dimension of health challenges surprisingly is because of higher density and, sometimes, quality of health care available in cities. In many developing countries, elderly people are compelled to move to cities where health facilities are more. This increased percentage of old-age population in the cities result in more geriatric diseases and also need for more palliative care facilities. There is also the problem of slums. Overcrowding and lack of access to safe drinking water and sanitation, which mark the slums, contribute to the spread of infectious diseases such as tuberculosis and malaria.

The health challenges and issues thrown up by the current bout of

urbanisation are very complex and novel in many cases, and health sector alone cannot tackle them. For example, reduction of road accidents, one of the targets under Sustainable Development Goal 3, requires collaboration of transport sector and traffic regulatory authorities, automobile makers, and health sector. What is required is ‘an integrated and multi-sectoral approach.’⁷ These factors have prompted the World Health Organisation to identify urbanisation as one of the key challenges in public health in the 21st century.

Healthy City Planning

This gamut of challenges stresses the need for city planning with health of the population as a major goal. In fact, the World Health Organisation (WHO) has been long exploring this aspect. Three decades ago, it had initiated the Healthy Cities Project. This year it is celebrating its 30th year. It is a long term international development initiative that aims to place health high on the agendas of decision makers and to promote comprehensive local strategies for health protection and sustainable development. Initiated by the European Region of WHO, the Healthy Cities network now has some 100 cities in around 30 countries.⁸

According to WHO, a healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential.⁹ A Healthy City aims to:

- create a health-supportive environment,
- achieve a good quality of life,
- provide basic sanitation & hygiene needs, and
- supply access to health care.

The healthy cities' principles and values are equity, participation and empowerment, partnership, solidarity and friendship and sustainable development.¹⁰

As recognised in the Shanghai Declaration on Promoting Health in the 2030 Agenda for Sustainable Development, adopted by the 9th Global Conference on Health Promotion, November, 2016, cities are critical settings for health. The Declaration recognises health as one of the most effective markers of any city's successful sustainable development that contributes to make cities inclusive, safe and resilient for the whole population. It also notes the challenges posed by rapid rural-to-urban migration, global population movements, economic stagnation, high unemployment and poverty as well as environmental deterioration and pollution to public health, and makes a forceful statement that it is not acceptable that "city residents in poor areas suffer ill-health disproportionately and have difficulty accessing health services."¹¹ The healthy cities movement got a boost through the WHO Belfast Charter for Healthy Cities (2018)¹² which makes a strong political commitment to WHO European Healthy Cities Network in Phase VII (2019-2024). It recognises that sharing of international experiences is necessary for development of healthy cities across countries.

Hygienic cities are the basis of urban health. China launched a national Hygienic Cities project in 1989. After 2007, it established 10 pilot Healthy Cities.¹³ A major scheme in India towards healthy cities is the Swachh Bharat Mission launched in October, 2014. The objective is "to accelerate the efforts to achieve universal sanitation coverage"¹⁴ and make India open defecation free (ODF), sanitation being a principal contributory factor of public health. In the four years, the Mission has succeeded in making 25 states ODF. As per the latest statistics, 532 districts and 5, 27,964 villages are ODF.¹⁵ The country is now 96.29 per cent ODF. India also launched Smart City Mission in June 2015. Health is a core component of the smart city, which is an integrated township with all modern technological back-up and infrastructure, and it incorporates the principles of healthy cities like adequate water supply, sanitation including solid waste management, sustainable environment and health. This Mission targets 100 cities in India.¹⁶ India had earlier, in 2013, launched an ambitious National Urban Health Mission which covers all 779 cities with a population of over 50,000, but essentially addresses the health concerns of the urban poor only.¹⁷

In the present globalized world, with production and delivery of products and services involving multiple countries even for a single product or service, and with increased mobility of people, both as tourists and as migrants, including refugees, development of healthy cities calls for international cooperation. The challenges are new to some countries who may not be technically and administratively

¹⁰ Belfast Charter for Healthy Cities, October, 2018.

¹¹ Available at <http://www.who.int/healthpromotion/conferences/9gchp/shanghai-declaration.pdf?ua=1>.

¹² <http://www.euro.who.int/en/health-topics/environment-and-health/urban-health/publications/2018/belfast-charter-for-healthy-cities-2018>

¹³ <http://www.wipro.who.int/china/mediacentre/factsheets/healthy-cities/en/>

¹⁴ [Swachhbharatmission.gov.in/SBMCMS/about-us.htm](http://swachhbharatmission.gov.in/SBMCMS/about-us.htm)

¹⁵ Ibid.

¹⁶ <https://smartnet.niua.org/smart-cities-network>

¹⁷ See note 5 above.

¹⁸ Herbal Medicine Market Size and Forecast, By Product (Tablets & Capsules, Powders, Extracts), By Indication (Digestive Disorders, Respiratory Disorders, Blood Disorders), And Trend Analysis, 2014-2024, by Hexa Research, September 2017.

¹⁹ Pib.nic.in/newsite/PrintRelease.aspx?relid=175416

²⁰ Annie Xianghong Lin, Ging Chan, Yuanjia Hu, Defang Ouyang, Carolina Oi Lam Ung, Luwen Shi, and Hao Hu, Internationalization of traditional Chinese medicine: current international market, internationalization challenges and prospective suggestions, Chinese Medicine 2018;13.9, available at <http://www.nih.cbi.nim.gov/pmc/journals/463>

equipped to deal with them. International cooperation can help them to face those challenges more efficiently. As stated in the WHO publication, *Cities for Health* (2014), “much can be learned by sharing information and resources. What works, what doesn’t, and in which contexts are important questions that people like to have answers to.” International cooperation can enable in gleaning the best practices.

Many cities in BRICS nations face similar problems of overpopulation, pollution, obesity, stress, depression, high incidence of CVDs and NCDs, and much more, as may be seen from Table 1.

When countries face similar problems, it makes economic sense to work in collaboration towards making healthy cities in BRICS. Two great advantages of cooperation are in the areas of knowledge sharing and resource sharing. Since many of the developing countries lack a knowledge base to tackle the new and emerging issues relating to health unfolding with increased urbanisation, it is appropriate they seek cooperation of other countries, both from the North and from the South.

BRICS can be a trend setter in this regard.

Role of Traditional Medicines

The last few decades have seen an increased global acceptance of Traditional Medicine (TM) systems for health care. As per a market research study, the global herbal products was valued at US \$ 71.19 billion in 2016, the previous two years being US \$ 63.5 billion in 2014 and US \$ 66.99 billion in 2015, showing steady growth.¹⁸ According to the authors of that study the increase is due to the preference of people for Traditional Medicines like Ayurveda, Siddha, Unani and Chinese Medicine. India’s export of Ayurvedic products in 2016-17 is estimated to the tune of US \$ 243 million in 2016-17.¹⁹ The export of TCM products (medicinal materials, decoction pieces, Chinese patented medicines, herbal extracts, and health care products) amounted to US \$ 1.499 billion in 2016.²⁰

There are many reasons for such interest in Traditional Medicines. The most important one is that the adverse effects of chemical based modern medicines and the looming threat of

Table 1: NCDs in BRICS Countries

Country	Age-standardized NCD mortality rate (per 100 000 population)		Total NCD Deaths (in thousands)		Age-standardized suicide rates (per 100 000 population)	
	2000	2016	2000	2016	2000	2016
Brazil	672.3	452.0	756.6	975.4	5.3	6.1
Russia	947.0	659.7	1884.3	1634.8	47.5	26.5
India	678.8	597.5	4234.3	5995.3	18.7	16.5
China	659.5	542.4	6763.3	9258.8	14.1	8.0
South Africa	765.3	707.2	187.3	269.5	14.4	12.8

Source: Global Health Repository Data, WHO.

Anti-Microbial Resistance (AMR) have prompted practitioners and patients to look towards safer herbal based medicines and therapies.²¹ Another reason is that Traditional Medicine systems are mostly plant based and the medicines are prepared in environment friendly customary ways. Consequently, they are comparatively free from any serious adverse effects if used rationally and people tend to prefer them over the chemical based medicines. So far as countries where they have been in use for long and where they still form a major part of healthcare such as China and India, the people accept the same because they know that these systems are time tested over millennia and provide holistic treatment factored on specific needs of each individual.

Rationale for use of Traditional Medicines in Creation of Healthy Cities in BRICS

Making cities and human settlements inclusive, safe, resilient and sustainable is one of the Sustainable Development Goals.²² One of the targets to achieve that goal is sustainable urbanisation and integrated and sustainable human settlement planning. In the efforts to achieve that goal along with Goal No. 3 regarding ensuring healthy lives and promoting wellness for all at all ages, traditional medicines have an important role to play. The Traditional Medicines are quite eco friendly and sustainable. In the city planning, integration of traditional medicine systems, wherever available, appropriately with the general health care system will contribute towards the faster achievement of SDG objectives. It will enhance the general

wellness of the people in the cities. The objectives of the *WHO Traditional Medicine Strategy 2014-2023*, among others, include promotion of universal health coverage by integrating Traditional and Complementary Medicine (TCM) services into healthcare service delivery and self-health care. The basic principles of Traditional Medicine systems call for sustainable balance of biological resources with human consumption, use of natural means to maintain clean air and water and a generally healthy lifestyle. Traditional Medicine fits in with the concept of harmonious development of humans and environment. Traditional Medicine is more than a curative intervention; it is a culture that is rooted in sustainability and wellness and happiness. The traditional medicine systems can be effectively used in preventive and curative as well as convalescing health care in cities. Development of cities should be done with minimal damage to the biological resources. Instead of totally rejecting the traditional systems, they can be profitably employed in the planning and development of healthy cities.

Most developing countries lack the financial, human, infrastructural and technological resources to provide for universal health care, especially in the cities. The patent monopolies over new modern medicines and medical devices generally make them unaffordable to ordinary people in these countries. The traditional systems, if discretely and with adequate safety and quality regulations used, can fill in the gaps in the universal health care programmes. They are likely to prove less of a burden on the national resources.

²¹ Michael McInty, The role of herbal medicine in combating antimicrobial resistance, pptx available at ehpa.eu/pdf/.

²² Goal 11.

²³ Archana K Verma, Munesh Kumar and Rainer W Bussmann, 2007, Medicinal Plants in an urban environment: the medicinal flora of Banares Hindu University, Varanasi, Uttar Pradesh, in Journal of Ethnobiology and Ethnomedicine, 2007, 3:35

²⁴ Pye-Smith, CH. 1996. Building green islands in Bombay. People & the Planet 1996, Volume 8.4, November 1996, referred to in Guido Kuchelmeister, 2004, Over Story No. 142, Urban Trees and Forests, at <https://www.agroforestry.org/the-overstory/130-overstory-142-urban-trees-and-forests>.

BRICS, as a group of countries with developed Traditional Medicine systems, should promote the use of these systems. That would include the integration of these systems in general healthcare systems. They can also consider starting collaborative scientific and socio-economic research on the use of different TM systems and their impact on Urban Health and Wellness. The lessons derived from such studies can be used in the urban planning.

International Cooperation in Traditional Medicine

The Beijing Declaration adopted by the WHO Congress on Traditional Medicine held in Beijing on 8 November 2008, *inter alia*, stressed the collaboration of governments, international organisations and other stake holders in the implementing global strategy and plan of action. WHO already has a network known as International Regulatory Cooperation for Herbal Medicines (IRCH). The BRICS political leadership has highlighted the significance of international cooperation in traditional medicine. The 7th BRICS Health Ministers Meeting and High Level Meeting on Traditional Medicine held in Tianjin, China in July, 2018 focussed on international cooperation on the development of traditional medicine. In that meeting, Shripad Naik, the AYUSH (Traditional Medicine) Minister of India stated that BRICS countries have a deep foundation for traditional medicine and they can learn from each other and make traditional medicine an important part of the medical system. The Chinese President Xi Jinping also called for enhanced exchanges and cooperation

and requested the parties to study and take reference from others in the field of traditional medicine and make joint efforts to tackle public health challenges and people's health.

Ayurveda and City Planning

Ayurveda stresses the importance of clean air and water for human and animal health, two major casualties in urbanisation. Trees and forests are the best purifiers in the world. Also, traditional medicine depends on plants for its medicinal products and these plants have to be cultivated and grown in organic way to get the best results from the medicinal formulations. Medicinal plants always contribute to cleaner air. Forests, which have both clean air and water, have been the source of invaluable medicinal plants since time immemorial, but with increasing deforestation and degradation of forests²³, Traditional Ayurvedic practitioners focussed on cultivating medicinal plants gardens. In the urban landscape, building in the Traditional Medicine concepts will lead to planting such plants and other medicinal trees. Besides, exposure to medicinal plants is essential for teaching Ayurveda. With more and more urbanisation and more numbers of traditional medicine colleges getting established in cities, there is also an educational need to have such parks in cities. The Mahim Nature Park in Mumbai, India, which has a garden with over 105 species of Ayurvedic plants, is a case in point, where students of traditional medicine are taught about the medicinal plants²⁴. Urban forests based on the concept of Ayurveda, for example, may increase the benefits of forestry manifold and will also contribute

to the sustainability of cities. They will enhance the availability of herbal plants for drug firms, both traditional and modern. The findings of a WHO study (2017) show that interventions to increase or improve urban green space can deliver positive health, social and environmental outcomes for all population groups, particularly among lower socioeconomic status, though more focus is needed on health.²⁵

The concern of Ayurveda about healthy environment does not end with plants and herbs but extend to living space. According to Ayurveda and traditional architecture, a healthy building has to breathe like a living being. In such a building, “the bricks and floor tiles are made of medicated clay; a mixture of lime, mud and medicinal herbs for plastering; gums collected from the bark of trees for the base of the floor.”²⁶ Architecture and Yoga are also connected since there are Yogic principles on constructing one’s living and working spaces.

Towards a Healthy Lifestyle: Yoga

Yoga, one of the Indian Systems of Medicine, is a total mind-body workout. The techniques and practices used in Yoga can be effectively employed in the prevention and mitigation of diseases and the promotion of health and well being. The different components of Yoga “advocate certain restraints and observances, physical discipline, breath regulations, restraining the sense organs, contemplation, meditation and Samadhi. These steps are believed to have potential for improvement of physical health by enhancing circulation of oxygenated blood in the body, restraining the sense

organs thereby inducing tranquillity and serenity of mind.”²⁷ Experts in various branches of medicine including modern medical sciences accept that the practice of Yoga “prevents psychosomatic disorders and improves an individual’s resistance and ability to endure stressful situations.”²⁸ It can help in the cure of anxiety and depression being a self-soothing technique similar to meditation, relaxation, and exercise. Yoga also improves an individual’s energy level and makes him/her more efficient. Many people use yoga therapy to manage mental and emotional problems, such as stress, anxiety, or depression, conditions and disorders, such as ongoing low back pain, chronic or long-term pain, and overall health and well-being.

In the light of these beneficent impacts of practice of Yoga has, it would be appropriate in the healthy cities to promote Yoga practices in work place and educational institutions, and integrate Yoga in daily curriculum of urban lifestyle. There is also need to promote awareness about Yoga as a traditional medicine system among BRICS countries.

Conclusion: Traditional Medicine Healthy Cities

Traditional Medicine systems can be an important component of healthy cities project. They, being holistic sciences and approach disease as a result of imbalance between mind, body and the environment, can significantly contribute to the building of healthy cities and to the tackling of health challenges of the increased urbanisation across countries. BRICS countries can play a lead role in placing Traditional Medicine at the centre stage of such a project.

²⁵ WHO, 2017, Urban Green Space Interventions and Health, at http://www.euro.who.int/__data/assets/pdf_file/0010/337690/FULL-REPORT

²⁶ Nandakumar T, Where Ayurveda meets architecture in The Hindu, Coimbatore, 27 June, 2010.

²⁷ <http://ayush.gov.in/about-the-systems/yoga>

²⁸ Ibid.

A possible beginning can be made by initiating dialogue for a sub-project aimed at setting up Traditional Medicine based Healthy Cities. In such a city, beginning from the planning itself the principles of Traditional Medicine can be incorporated. That would mean that there will be enough scope for open spaces, greens, and medicinal plants parks, apart from planting more trees and plants that, according to the Traditional Medicine systems, are healthy for human and animal life. They also would have Traditional Medicine hospitals and Centres for Yoga and other Traditional Medicine based physical and mental exercises. In the construction of roads, pavements and buildings, including houses and dwelling units, and even in

the making of the construction materials, the principles of Traditional Medicine can be followed. In such cities, facilities can be offered for the Traditional Medicine practices from other BRICS nations, emphasising the solidarity of the group in this vital area. While the project may begin with BRICS cooperation, later, more international cooperation can be explored. International cooperation can be through provision of technical support and assistance as well as information and knowledge sharing and may involve international organisations like WHO and non-governmental organisations. They can also contemplate measures to promote trade and movement of Traditional Medicine products among themselves.

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