

Dated 12 December 2007

Dear Mr. Prime Minister,

The current global health sector trends suggest that medical pluralism, to which Indian traditional medical systems can contribute critical components, will shape the future of healthcare. This shift from singularity to plurality is taking place because it is becoming increasingly evident that no single source of health science has the capacity to contribute solutions to all of society's health needs. India has a comparative advantage and can be a world leader in the era of medical pluralism because it has strong foundations in evidence-based biomedical sciences as well as an immensely rich and complex indigenous medical heritage of its own. The Government has already undertaken and encouraged several initiatives in the area of traditional medicine within the country including establishment of the Department of AYUSH in the Ministry of Health and creating support programs in S&T agencies like CSIR, ICMR, DBT & DST. To accelerate this momentum, the National Knowledge Commission (NKC) consulted extensively with diverse stakeholders within the related fields and also constituted a Working Group of researchers, private sector representatives and policy-makers. Our recommendations on strategies to promote the knowledge systems of traditional medicine are as follows:

- 1. Transform traditional medicine education:** The quality of and access to education in traditional medicine in the country needs urgent improvement. There are currently 450 poorly endowed colleges (undergraduate and post-graduate) admitting around 25,000 students in the country. These colleges are not training students to play leadership roles in the emerging era of medical pluralism. The major reason for this lacuna is that education in traditional medicine fails to provide the transformational catalysis necessary to link traditional medical system sources to evidence-based approaches. This has led to isolation of such education and lack of its pluralistic integration into mainstream evidence-based medicine education, which is essential if India's traditional medical heritage is to find its rightful place in global medical pluralism.

It is recommended that efforts be made to introduce evidence-based approaches into the current educational framework, possibly through institutions of the standard of IISc, IITs and AIIMS with commensurate financial outlays.

- 2. Strengthen research on traditional health systems:** Investments in research and development of traditional medicine have been sub-critical and fragmented resulting in scarcity of evidence about the efficacy of THS. In addition, these efforts have also been frequently characterized by a lack of rigorous evidence-based approaches. There has also been little appreciation of the role that social science research must play in comprehending the variety of societal perceptions and responses so critical to ideas of medical pluralism. There is a need to urgently establish a network of world-class research programmes in different parts of the country to address these lacunae, with appropriate institutional and incentive structures. It is essential for India to make

original, rigorously evidence-based contributions to the world of medicine in fields such as pharmaco-genomics, immunology, drug discovery and cardiology via imaginative examination of traditional ideas such as prakrti, rasayana or rasa.

- 3. Strengthen pharmacopoeial standards:** Despite extensive documentation of medicinal plants, there is a strong need for creating internationally acceptable pharmacopoeias for herbal medications, as well as eco-system specific, regional pharmacopoeias for various bio-geographic regions of India.
- 4. Increase quality and quantity of clinical trials & certification:** Promotion of traditional medicine goes hand-in-hand with increase in the quality of rigorous, yet sensitively designed clinical trials to support or refute traditional medical claims of efficacy. Also, lack of information on toxicological data/safety studies makes it difficult to evaluate the risk profile of traditional medications. There is a need for greater institutional enabling of such evaluations and trials. These should be accompanied by a world-class certification process, which will assist the achievement of internationally acceptable standards for good manufacturing, laboratory, clinical, agricultural and collection practices. The pre-clinical and clinical efficacy validation and standardization of ten best THS products for global market should be supported as a flagship project. Similarly technological upgradation of the manufacturing units involved in manufacture of these successful products to international standards must be carried out.
- 5. Digitise traditional knowledge:** The work underway for creating a comprehensive Traditional Knowledge Digital Library (TKDL) should be diversified and expanded. A major program should be established for digitization of India's medical manuscripts (located both within India & abroad) and for making this digital library accessible to teaching and research institutions in India. To modernise data-mining from the vast corpus of traditional medical literature, an all-India coordinated, "Traditional Knowledge Informatics program" should be constructed to create a comprehensive list of available plant material-medica (2,000 species), their products (40,000 formulations) and clinical applications (5,000 conditions).
- 6. Create suitable framework of intellectual property rights:** Emphasis should be put on creating suitable Intellectual Property Rights framework in the country for protection of the sources of traditional medical knowledge. At the same time sufficient incentives should be created for commercialization of traditional medications. Steps should be taken for the use and incorporation of TKDL, with all pertinent sources of information, into the minimum search documentation lists of International Search Authorities and other patent offices while processing patent applications. Lack of clarity regarding the 'ownership' issue for traditional knowledge must be addressed in the TKDL. This is especially pressing since underprivileged communities are commonly the primary sources of such knowledge. The need is to create IPR systems that ensure that such knowledge remains in the public domain and is "protected" for the communities of origin through mechanisms such as GIs.

An approach to the commercial dissemination of traditional medications will be to allow companies to access TKDL upon payment of adequate user fees and subject to the condition that invention arising out of the TKDL would require royalty sharing. Both user fees and royalty must be shared between government and the communities identified as the sources of the knowledge, and innovative modalities will need to be found to administer such distribution. The revenue generated by the government from

commercialization of TKDL and other commercially synergistic initiatives should be used to create a '*Traditional Knowledge Development Fund*' and its proceeds should be used for conservation, evidence-based analysis and research on traditional knowledge and for the benefit of communities that have contributed to the creation of traditional knowledge.

- 7. Establish goals for conservation of natural resources:** Natural populations of around 12% of the 6000 species of potentially medicinal plants are currently estimated to be under threat due to degradation and loss of habitats alongside unsustainable ways of harvesting and lack of cultivation. The problem of growing scarcity also leads to the danger of more counterfeit material being marketed. It is therefore necessary to support conservation and sustainable harvesting efforts in the forestry sector and cultivation in the agricultural sector. Direct support for conservation and cultivation as well as indirect methods through incentive policies should be pursued for nurturing these plant resources. The wild gene pool of India's medicinal plants should be secured, via establishment of a nation wide network of 300 "Forest Gene Banks" across the 10 bio-geographic regions of the country.
- 8. Support non-Government and Corporate initiatives for promotion of THS:** The non-government and private sector have played an important role in building the public image of traditional health sciences. Non-governmental research and education institutions, NGOs and corporates with a global vision must be strategically supported in the interest of enhancing national and international awareness of India's rich health system heritage.
- 9. Promote international cooperation:** International cooperation in exploration of traditional health systems must be given a big boost through substantial initiatives like strategic research collaborations with reputed research centres and establishing wellness centers in countries that offer promising market opportunities. EXIM bank of India must be supported to work with industry to open world markets for these products and services.
- 10. Support primary healthcare in rural areas:** With 70% of Indian population relying on traditional medicine for primary health care in the absence of adequate state primary health care, it becomes necessary to establish evidence-based guidelines for this informal-sector usage. A nation-wide network of Home Herbal Garden and Community Herbal Gardens (CHG) can be created to support the primary health care needs of rural communities for those plants and medications established as efficacious by evidence-based research.
- 11. Create a major re-branding exercise of Indian traditional medicine:** Better branding of Indian traditional medicines proven to be effective in well-designed clinical trials can increase safe and effective healthcare options. Such proven medications should be integrated with the national healthcare system. Such evidence-based, well-validated and uniquely Indian holistic healthcare system combinations must be marketed extensively globally.

In order to achieve these goals as rapidly and efficiently as possible, the Government of India may consider establishing a National Mission on Traditional Health Knowledge (NMTHK), which would take up these tasks in an organized way. It

should be a relatively small body in terms of its own infrastructure with powers to enable it to recommend targeted funding in identified areas. It should support initiatives at many different levels, including state and local levels, and coordinate with Ministries of Health, Science & Technology, Forestry, Agriculture, Commerce as well as with the NGOs and private sector. The Mission leader must be a person with high public credibility, have extensive knowledge and experience in the field with established managerial capabilities and experience of dealing with all the concerned stakeholders.

We believe that these recommendations will go a long way in enabling THS to realize their full potential in meeting the health needs of our people. We look forward to being engaged in the process of implementation of these recommendations.

With warm regards

Yours sincerely

Sam Pitroda

Copy to :

1. Sh. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission
2. Dr. A. Ramadoss, Minister for Health & Family Welfare