COUNTING THE STRENGTHS AND COUNTERING THE WEAKNESSES: APPLYING SWOT ANALYSIS INTO AYUSH FOR ITS BETTER APPRECIATION AND APPLICATION

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Abstract
Ayurveda and allied health care practices jointly called as Ayush have a deep ethnic, cultural and contextual relevance to India. For their uninterrupted succession through centuries and their naturally spurted support system representing masses, these are found to be capable of being transformed into a well perceived, systematic, scientific, dependable and patient friendly forms of medical interventions which are ought to be accessible, affordable and available, a quest desperately sought in Indian health care delivery scenario.

This is however unanimously perceived that Ayurveda and other indigenous systems of medicine in India are actually performing well below their potential performance levels. To make an honest analysis to delineate the causes of this underperformances aiming to suggest pragmatically the remedies effective to get over we have done a SWOT analysis upon Ayush. This article reveals few very important strengths, weaknesses, opportunities and threats relevant to the field of Ayush not only in its present context but also to its future prospects and perspectives.

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INTRODUCTION
Ayurveda and other allied health care systems indigenous or indigenized to India (acronymed as AYUSH) are lately been perceived for their potential of playing greater roles in the composite of Indian healthcare system (1). Ayurveda, a major component of AYUSH has unanimously been accepted as an oldest living health care tradition under practice. In recognition to the time tested values associated with Ayurvedic wisdom, this is often modestly said that almost every health care tradition contemporarily practiced, has some elements from Ayurveda forming the foundation to their preliminary thoughts.

Unfortunately, despite of its fundamental excellence and historical precedence of many thousand years, Ayurveda in particular and other components of AYUSH in general, are unable to make their impact in terms of dependence and clarity of their definitive roles into current Indian health care needs (2,3). Any analysis aiming to sort possible causes and their pragmatic remedies to bridge the gap between ‘existing’ and ‘expected’ in the segment of AYUSH practice would therefore be highly rewarding.

SWOT analysis has been a trusted tool in the hands of policy makers for its feasibility in searching the ideas around multiple dimensions of a given system, organization or a task. SWOT analysis aims to get a before hand knowledge about the countable strengths of the object concerned including available logistics and human resources (4). On the next it identifies the weaknesses prevalent in existing practices which may act as counter forces against the existing strengths. Further, this aims to identify opportunities of future which are open to be grabbed. Finally it also speculates about the unseen threats which may creep in resulting in unduly reduced efficiency once a plan is actually launched at the ground level. In following pages we have enumerated many such variables which may have a direct or indirect influence upon AYUSH performance in future either at their own or due to their combined effects in conjunction with many other co-existing factors.

APPLYING SWOT ANALYSIS TO AYUSH SYSTEMS
Strengths of AYUSH as a club of traditional health care systems practiced in India

The biggest strength of AYUSH systems in India lies in the trust which it enjoys among common people referring to its use in wide varieties of clinical conditions. A huge amount of AYUSH use is derived from household remedies practiced regularly in common Indian households on the basis of personal experiences gathered and percolated through generations. A more systematic, clinic based usage of traditional health care comes only next to its home based usage in India.
Owing to their native and indigenous status, systems incorporated under AYUSH enjoy a legitimate status allowing them to be practiced and propagated at their own besides the support of the center and the state they largely enjoy in reference to their education and health care delivery. Various statutory acts are available in India which define the rights and responsibilities enjoyable to AYUSH practitioners.

Systems incorporated under AYUSH have a well documented tradition of their theories and fundamentals in terms of disease understanding and practice of cure. These theories have their own connotations of disease understanding and cure propositions which may not be well understood by conventional views but are seemingly logical as they offer relief based upon their own understanding of disease and its cure.

Ayurveda, Siddha and Unani system of medicine which are further based upon a repertory of phytomedicines are based upon herbs and minerals of which many are easily available in households or in vicinity.

For their dependence upon subjective evaluations of pathogenesis and its nature based remedies, AYUSH therapies are less cost intensive comparing to conventional medicine which are increasingly based upon technical supports to reach at a diagnosis and subsequent treatment.

Side effects to AYUSH interventions are less visible comparing to conventional medicine. These minimal side effects can even further be curtailed by ensuring a standardization protocol to AYUSH drug manufacturing and its usage.

Large numbers of availability of registered practitioners, dispensaries and hospitals in public and private sector pertaining to AYUSH makes it easily accessible and available. Infrastructural facilities to AYUSH have further been intensified by including AYUSH under NRHM with an objective of its mainstreaming and spread to underrepresented areas.

Large number of availability of educational institutions (in public and private sector) imparting education at undergraduate and post graduate levels in various systems incorporated under AYUSH are also adding to the dissemination of AYUSH knowledge to every corner.

Weaknesses of AYUSH systems in reference to their current status

Despite of having an impressive history of their use and an unprecedented support system, components of AYUSH are still underutilized comparing to their potentials. This could be due to certain weaknesses inherent to the system or to its practice style. Important weaknesses of AYUSH systems may be enumerated for this reference as below:

1. AYUSH clinical establishments (hospitals and dispensaries) are the poor casts of the structures available in similar settings at allopathic hospitals. AYUSH clinical settings are devoid of many basic diagnostic, treatment and patient care necessities which may be required to give a comprehensive care to the patient.

2. Poor research and experience based backup to AYUSH practitioners as a help to them in case of clinical or diagnostic dilemmas.

3. Poor referral practice in AYUSH. There are no structured setups with designations of primary, secondary or tertiary care.

4. Poorly focused approaches in practice of medicine. Specialization is often self made and is not based upon institution based rigorous clinical training. Huge numbers of generalist are getting involved in specialized care without having a specialized knowledge to deal with such conditions.

5. Lack of scientific temper in education and practice. AYUSH education is largely traditional and does not solve the quiries of human mind based upon application of logic and interpretations. For this reason, AYUSH graduates remain less confident of their system when they pass out with a degree in a respective subject. AYUSH clinical practice is largely experience based and not evidence based. The decision making in AYUSH practice is largely empirical and subjective where the inferences cannot be drawn easily by an inexperienced physician. For this reason, it requires a huge amount of time for one to become an experienced and thereby a good physician.

6. Educational facilities are grossly inadequate for paramedical human resources in AYUSH. Large numbers of unskilled workers thereby are employed in
various skill requiring activities. This affects the quality of the services offered.

7. Lack of noticeable collaborative efforts. between various stakeholders in reference to education, practice and research of AYUSH. There are meager initiatives taken from NGOs, private sectors and universities in reference to these activities.

8. Lack of quality standards in medicines. Despite of a mandatory requirement of GMP certification for preparation of ASU drugs, we are aware of many quality related deficits pertaining to these preparations. Drug manufacturing sector in AYUSH is largely unorganized with huge number of small and medium level entrepreneurs. There had been little investment and initiative taken towards the underrepresented areas of AYUSH drugs in terms of their form of uses, applications and indications. Safety of AYUSH drugs in vulnerable population like elderly, infants and lactating and pregnant mother is still a question to be addressed carefully.

Besides these many enumerated above, there are few more enlisted as following:

- Poor investment of resources zones (30%) as compared to Allopathy.
- Lack of international support on scientific / financial aspects.
- Lop sided development of AYUSH infrastructure i.e. education & health care facilities.
- Lack of awareness about AYUSH System and its strength.
- Inadequate manpower in States/UTs & Central offices for effective administration of AYUSH. The available 3,133 AYUSH hospitals and 22,975 AYUSH dispensaries in the states/UTs are inadequate to cater population of 119 Crores in the country.
- The State Health expenditure for AYUSH is lower than 5% of the total health expenditure in most of the States UTs.
- The collocation of AYUSH facilities under NRHM initiated from April, 2005 onwards has not been given due share of AYUSH.
- The AYUSH manpower posted under NRHM is approximately 9578 as on 30.09.2010 after 5 years of implementation of NRHM, which is much less than the target.
- The drug procurement for collocated facilities under NRHM is irregular and not as per the need of the facility.
- Sense of feeling that career advancements in the AYUSH Sector is limited.

Existing opportunities in AYUSH sector

Despite of many weaknesses observable in the current practice style of AYUSH, it still has many opportunities which are unique and which can be well explored in order to harness the potential of AYUSH to the maximum. Few main opportunities which are clearly visible and which can easily be utilized for the growth of AYUSH are following:

1. Solution for life style disorders: to the most part of its philosophy and also to its practice, AYUSH present variable solutions to life style diseases. Because of its comprehensive management based upon diet, life style which are originating because of faulty living habits and also having multifactorial causes. Incidentally, these diseases are not having sustainable answers in conventional medicine where the approach is more segmental and focused to a precise pathology.

2. Preventive care: AYUSH primarily promotes preventive aspect of health care by promoting various healthy interventions which may prevent disease if adopted early in the beginning of a disease. Incidentally preventive health care has become the focus of health care globally and hence it has become easy for AYUSH to create a niche for itself in ongoing demand for preventive care.

3. Increasing global liking for natural cures: For increasing awareness about hazards associated with synthetic substances including synthetic medicine, there has been an unprecedented sprung in the likening towards natural cures including herbal medicine. AYUSH for its dependence upon natural resources has become the persona grata in this scenario.

4. Already accepted forms of AYUSH having high global appreciation: many forms of AYUSH practices including Yoga and naturopathy have a high appreciation throughout the world and are already in practice every where including developed world (10).
1. **Safety issues**: safety issues pertaining to heavy metal contents in Ayurveda, Siddha and Unani drugs are going to become biggest issues which may restrict global growth of these systems. Hazards of herbal drugs in form of drug-herb interaction are also gaining momentum.

2. **Astringent legal restrictions**: European countries and USA are preparing very strict rules to discourage traditional medicines in their market. A noncompliance to the law of land would eventually lead to a restricted entry of these medicines in a particular area.

3. **Growth of unscrupulous products and practices**: owing to the commercial viability of herbal products and practices, a huge amount of fake and unscrupulous growth may occur in the market. This if remained unchecked will reduce the credibility of the genuine practice.

4. **Failure to meet the demand**: in view of global upsurge of natural medicines, AYUSH is required to make a quick overhaul to cope with the growing demands in terms of quality, research, education and practice. Failing to this will create a fall in demand and a gradual disinterest.

5. **Limiting natural resources due to increasing urbanization**: because of increasing urbanization, abode to natural resources are fast reducing causing a threat for many species to extinct. If not checked, it may cause many herb species to become unavailable in near future.

6. **Stealing of traditional knowledge**: In view their commercial potential, traditional knowledge from AYUSH is always threatened to be patented by others.

After having an overview of AYUSH in terms of SWOT components, we can further dissect it into various specified areas pertaining to AYUSH products or practice. These specified area may be the resources, education, research and dissemination pertaining to AYUSH. We can apply a separate SWOT analysis to these specified areas.

**SWOT ANALYSIS FOR AYUSH RESOURCES: MEDICINAL PLANTS AND THEIR USES**

**Strengths**

1. **Rich Flora and huge biodiversity**: India has a rich flora of over 6000 medicinal plants marked by a huge biodiversity occurring through diversified ecosystems from Himalaya, marine, desert and tropical rain forest.

2. **Traditional house hold use of herbs**: India has a rich heritage of using herbs as house hold remedies. So the medicinal properties to many herbs commonly used are well known.

3. **Domestic drug manufacturing**: Indian AYUSH drug manufacturing is largely based upon small scale units which are unorganized. This had made these products easily available to every corner of India at very affordable prices.

4. **Variable drug uses**: Ranging from variable human use to veterinary uses, AYUSH is used for a variety of consumption.

5. **A huge network of AYUSH practitioners**: India has over 8 lack AYUSH practitioners.

6. **Domesticated research institutes focusing upon herbal research**: There are many research institutes which are focused upon specific researches based upon the resources and practices based in a particular area.

**Weaknesses**

1. **Poor knowledge base about GACP**: Most farmers and producers of medicinal plants have little knowledge of GACP and hence they get a low yield.

2. **No value addition to produce**: Indian medicinal produce are often sold raw in the market without any value addition like segregation of plant species as per their quality, isolation of the medicinally useful components from the whole plant etc. This makes the medicinal plant cultivation a low profit business.

3. **Poor storage knowledge**: Farmers and suppliers of medicinal plants are not equipped with knowledge about storage of raw material. It is thereby, medicinal produce are vulnerable to damage by environmental exposures.

4. **Unorganized market**: medicinal produce are often sold in the local market where the farmers get a very low return.

5. **No concern about renewable or sustainable cultivation**: collection of medicinal herbs in unorganized sector is devoid of any concern for its sustainability. It is for this reason; the medicinal plants are often exploited.
to the extent that they become extinct. The examples are reducing varieties of medicinal plants available in Himalayan region.

Opportunities

1. **Application of newer cultivation techniques:** To promote cultivation of endangered species and to promote standard cultivation to maximize the yield, newer cultivation techniques may be adopted.

2. **Herbal garden, kitchen garden and community gardens:** Medicinal plants can easily be grown at small places near the households and also to the community areas. They can well be grown on the side of road, parks, and other community places. Small herbs can even be grown in pots to be kept inside the house. Tulsi is one beautiful example of this kind of cultivation.

3. **Increasing demand in market for herbs:** There is an unprecedented demand in the market for herbs both in the crude and in finished forms. Linking GACP to market can give a substantial benefit to medicinal plant cultivators.

4. **Reverse pharmacology:** reverse pharmacological approach has proved to be a big boost to pharma industry based upon the clues of traditional uses of herbs. This can be exploited for the growth of AYUSH.

5. **Preferred areas of herb usage:** There are certain identified areas where herbs are preferred to conventional drug usage. Hepatobiliary, musculoskeletal, neurodegenerative are such conditions where herbs are preferred over conventional drugs. Similarly for pediatric problems, herbal preparations are considered preferable (12).

6. **Acquisition of new knowledge into the existing data base:** on the basis of traditional uses of herbs in TCM, Greek medicine, Persian medicine, Tibetan medicine, many new herbs and their usage may be identified to enrich the knowledge base of AYUSH pertaining to its medicinal plant based repository.

Threats

1. **Threat of extinction of many herbal species:** Because of over exploitation of natural resources and also because of shrinkage of their natural habitat, many plant species are endangered and are threatened to extinction

2. **Threat of extinction of folklore knowledge of herbal medicine:** Because of changing living standards and also because of difficulty to carry with traditional methods of earning a living, knowledge of herbs which was available with villagers, tribes and traditional healers is shrinking. If not conserved this is going to be lost soon.

3. **Lack of standard and dependable product:** In lack of standards, one product can easily be ousted from the market. This is the biggest visible threat with AYUSH products if not taken care on urgent basis.

4. **Loss of biodiversity:** due to commercial cultivation and also due to forced production of medicinal crops in reference to demands, diverse plant species are going to face extinction. Wild species who are supposed to have strongest biological properties are going to become extinct first in this order.

5. **Reduced quality of cultivated produce:** due to chemical fertilizers and forced cultivation medicinal produce are supposed to be of inferior quality.

**SWOT ANALYSIS FOR AYUSH RESEARCH**

Strengths

1. **Existing hierarchical system of research organisations:** AYUSH has a variety of research facilities under the governance of individual research organisations run on national basis. There are many regional and local units of these organisation who are engaged in field research.

2. **National research organisation collaborating in AYUSH:** besides organisation who are solely engaged in AYUSH research, there are many more who work in collaboration in various fields of AYUSH. CDRI, IITR, NBRI, CIMAP are such apex organisations who are contributing to the growth of AYUSH.

3. **Post graduate institutes in AYUSH:** A huge network of post graduate institute in various AYUSH disciplines is functioning. They produce a good number of MD and PhD every year and perform a substantial amount of research work.

Weaknesses

1. **Infrastructural deficits:** Research organisations in AYUSH are marked with gross infrastructural inadequacies in terms of training, manpower and technical expertise. In view of these deficits, the research
produced at AYUSH organisations are found to be of inferior quality.

2. **Inadequate dissemination of research**: AYUSH researches are poorly communicated and disseminated through publications. AYUSH presence at peer reviewed and high impact factor journals is meagre.

3. **Poor private sector involvement in AYUSH research**: AYUSH researches in India are completely based upon public enterprises. It is poorly complemented with researches at post graduate teaching institutes. Private sector is least involved in research in AYUSH. This is contrary to Allopathic system where maximum research initiatives come from private sector.

4. **Poor incentives on research**: AYUSH researches have poorly been linked with incentives in terms of career appreciation, or other benefits. This makes research a low priority area among AYUSH personals.

**Opportunities**

1. **Collaborative opportunities**: because of increasing acceptability of AYUSH therapies, there has been a renewed interest in research of AYUSH among many leaders from the basic and conventional science. This can be exploited to refuel the research potential in AYUSH.

2. **Harnessing the in-house potential**: By provision of adequate financial, technical and collaborative support, in-house research in AYUSH can also be augmented to the extent that it can meet international requirements.

3. **Linking motivation to research**: An appreciation or IPR based research can form the basis of motivation for further research in AYUSH.

**Weaknesses**

1. **Inadequate teaching and training programs**: Despite of their availability, the quality of teaching and training in AYUSH is poor.

2. **Poor paramedical training**: there are poor training facilities for paramedical staff engaged in AYUSH.

3. **Inadequate provision of skill enhancement or capacity building programs for enrolled staff**: This kind of program are lacking in AYUSH. Available programs like CME and RoTP are not able to cater the specific individual requirements.

4. **Uneven standards and unequal distribution of facilities**: AYUSH is largely marked with uneven standards among various colleges and is also marked with unequal distribution of facilities at work places.

5. **Inadequate number of people to represent AYUSH globally**: In view of increasing acceptance of AYUSH globally, there has been a steep rise in demand of experts in various segments of AYUSH.

**Opportunities**

1. **Increasing demand for AYUSH personals**: There has been a steep rise in the demand of AYUSH experts globally. There can also be an equal demand of
AYUSH experts nationally if their roles can be well defined under the ambit of NRHM.

Threats

1. **Poor educational standards**: may lead to production of poor quality human resource ultimately leading to poor appraisal of AYUSH.

2. **Mal-adaptation of research methods in AYUSH**: Mal-adaptation of conventional research methods in AYUSH may cause falcified results and inferences which may harm the AYUSH interest in long run.

3. **Loss of interest about AYUSH among people of high intellect**: Because of poor work appraisal and poor growth opportunities, AYUSH segment is losing charm among highly intellectual people for choosing it as a career opportunity. In this purview, AYUSH may face a deficit of new ideas and thoughts in coming few years.

CONCLUSIONS

Traditional health care is increasingly being realized as a potential mean of comprehensive health care with a clear focus upon preventive health care. It is now well understood that the preventive health care is sustainable, less cost intensive, less resource consuming and is able to affect a larger population with minimal resources. Interestingly Ayurveda in particular and AYUSH in general propose themselves as the great custodian to preventive health care through their patient centered multiple approaches primarily deriving through the real life experiences (13).

For their less cost requirements in training and their easy deployability in rural areas, traditional health care physicians (often called non physician clinicians) are coming up as a great source of health care manpower which can be of immense use if can be trained suitably towards the focused areas of health care relevant to developing countries (14). This SWOT analysis is a modest approach of thinking pragmatically towards this ancient health care wisdom from orient for its best possible utilization in global health care considering all its limitations and advantages at the same time.

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