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NCERT

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EDITOR'S NOTE

Education has continued to evolve, diversify and extend its reach since the dawn of human history. Every country develops its system of education to explore and promote its unique socio-cultural identity and meet the challenges of the times. Needless to say that the socio-cultural context and education are complementary, inclusive of each other's essential components. Culture paves the way for education and is responsible for the flow of cultural values in a society. Life survives under balanced conditions. The interlinkage between culture and education is the very essence of life, its existence and continuity.

In his article, Chandra B.P. Singh highlights the need to design culture specific pedagogy keeping in view our multicultural context. India has a long history of traditional system of education which is relevant in present context also. Vedic science propagated by Maharishi Mahesh Yogi has its source in ancient India. It brings together the ancient Indian traditional knowledge (*Vedas*) and discoveries of modern science to understand fundamental questions about life. Lee Fergusson, in his article examines the role of Vedic Science based education for socio-economic and educational developments in Cambodia.

The government of India initiated several schemes and programmes to improve the education of girls. Anita Nuna in her research based paper traced the contribution of one such scheme namely, 'National Programme for Education of Girls at the Elementary Level' (NPEGEL) for the education and overall development of tribal girls of Assam.

Sujata Bera and Soumita Dasgupta in their joint paper analyse some of the factors influencing the academic performance of girls studying at the senior secondary level. The findings supports the positive affect of private tutors on academic performance of girls which needs to be further explored as suggested by the authors.

The National Policy on Education (1986) visualises Mathematics as the vehicle to prepare children to think, reason, analyse and articulate logically. Rashmi Diwan's paper presents achievements of children in Mathematics along with Hindi in Municipal Corporation Schools of Delhi. Some concerns which need to be addressed include fear of failure, curriculum catering to both talented and non participating learners, assessment methods beyond mechanical computation, teacher preparation and support teaching of Mathematics.

Researches show that personality traits play an important role in facilitating academic success in various subjects. K.S. Misra and Stuti Srivastava identify the relationship of some personality traits and achievements of students in

Science. Lalit Kumar and Pusplata Kumari in their research paper reveal that convergent and divergent thinking of science students has its bearing on ethnicity, gender and types of institutions.

The Constitution of India guarantees equality of status and opportunity to all its citizens. Continued exclusion of vast number of children from education and the disparities caused through school system challenge the efforts towards achieving equality. Two articles address this issue. Ritesh Singh Tomar highlights the role of Dr. Ambedkar in expanding the domain of education from few privileged section of the Indian society to the most backward classes and Divyanshu Patel analyses the linkages between educational development and social mobility in marginalised section of our society.

The present issue concludes with Zafar Iqbal's article which presents suggestive guidelines to organise training for school teachers for ICT integration in teaching learning process.

We wish a very happy 2016 to all our readers.

Academic Editor

Vedic Science-based Education, Poverty Removal and Social well-being

A Case History of Cambodia from 1980 to 2015

LEE FERGUSSON*

Abstract

Prior research has suggested the programs of Vedic Science can play a part in personal, social and educational renewal and in the removal of poverty. In Cambodia, ranked the poorest country in the world in 1992, the contribution of Vedic Science-based education has been significant, not only in the lives of thousands of students but also in the welfare of the broader economic community. This paper explores the economic and social dimensions of this phenomenon. Specifically, the long-term impacts of a social renewal and healthcare program initiated in 1992 and the establishment of an innovative university, called Maharishi Vedic University at the beginning of 1993, are considered using the Social Impact Assessment model, with data on gross domestic product, gross national income, inflation, poverty, health and education analysed to assess the influence of a “coherence-creating” group of meditating students on poverty removal rates and social well-being.

INTRODUCTION

In the post-colonial years between 1953 and 1970 Cambodia enjoyed a period of relative social expansion under the stewardship of Prince

Norodom Sihanouk (1994). Under his *Sangkum reastr niyum*, Cambodia's education spending rose from 15.5% of the national budget in 1953 to 22.5% in 1959 before settling to 19.2% by 1966 (Bureau regional de

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l'Unesco, 1965), with the number of schools, colleges and universities expanding rapidly to meet a growing demand for education (Minson, *et al.*, 1968). During these years, primary education enrolments increased from 217,000 in 1954 to 1.0 million by 1970, and high schools and institutions of higher education were flushed with enrolments: in 1953 only 200 students were enrolled in higher education, but by 1970 this number had swelled to 10,000 (Vickery, 1984).

The economy also grew during this time, although more spasmodically. For example, gross national product (GNP) increased by 5% per year between 1959 and 1962 (Ross, 1987), but was lower in the 1960s as the threat of war and civil unrest loomed, and rice production increased from 1.4 Mt in 1955 to 2.4 Mt by 1960, where it remained throughout the 1960s. To a large extent during this period Cambodia was reliant on foreign aid, with development projects attracting \$22.4 million from China in 1955 and \$350 million from the U.S. between 1955 and 1962, most of it going to education, healthcare and agriculture.

This phase of opportunity in Cambodia came to an abrupt end in the early 1970s, first with expanded regional military operations, aerial attacks from carpet-bombing B-52s, a U.S.-backed coup (Kosut, 1971), and then victory by the Khmer Rouge (KR) over the Lon Nol government in 1975 (Shawcross, 1979). The KR's murderous rule ended with the

"liberation" of Cambodia by 100,000 Vietnamese forces in early 1979.

One of the unfortunate consequences of twentieth-century geopolitics has been the need to rebuild the economies and infrastructures of many countries after war, and in this sense the developmental arc of Cambodia is not especially unique, given the all-too-typical tragic loss of life and property, mass transmigrations, and destruction of infrastructure caused by war (Institute for International Cooperation [IIC], 2002). However, Cambodia's trajectory is uncommon in that its development was off a low base: in the 1980s, in addition to rebuilding the country's infrastructure after U.S. aerial bombardment which almost completely destroyed its roads, bridges and schools, and after a protracted civil war and genocide of about a quarter of its population, Cambodia was among the poorest in the world. As a result, the government sought ways in the late 1980s to accelerate its recovery by securing financial aid and harnessing the intellectual capital of educators and scientists from around the world.

In this context, the government entered into an alliance with Maharishi European Research University, an institution of higher learning specialising in the Vedic Science-based education and healthcare programs of Maharishi Mahesh Yogi, an eminent teacher of Vedic knowledge. Maharishi promoted the experience and knowledge of

Veda and the Vedic Literature as a means to realising greater health and prosperity for individuals and nations and to creating a more balanced, progressive and peaceful world. His initiatives included the implementation of educational and healthcare programs (Maharishi Vedic University [MVU], 1985), corporate development programs (Swanson & Oates, 1989), rehabilitation programs (Ellis, 1979), governmental programs, including poverty removal initiatives, to promote social and national balance and economic well-being (King, 1987), and programs to create world peace and prosperity in the family of nations (MVU, 1991). Maharishi even influenced the conversation surrounding some of the world's great religions and cultural traditions (Smith, 1980).

Maharishi and his worldwide programs have as a consequence been recognised by governments and leaders around the world since the 1950s, including citations in the record of the U.S. Congress (MVU, 1985), the Government of Madhya Pradesh (Maharishi Mahesh Yogi, 1996), and the Government of Mozambique, whose then President Joaquim Chissano stated Maharishi's programs resulted "in political peace and balance in nature in my country" (Calder, 2010).

In 1991, Maharishi turned his attention to Cambodia. At this time, Maharishi Vedic University (1991) published Maharishi's global vision for creating economic and

social well-being, outlining what he envisioned as the destiny of the world if enough individuals practiced his Transcendental Meditation and TM-Sidhi program—two related technologies derived from the Vedic tradition for developing the intelligence, creativity and energy of individuals and for enlivening progressive social trends—based on the premise that:

Life everywhere is naturally and spontaneously governed by Natural Law, which governs the infinite diversity of the universe with perfect orderliness, and without a noise. As national law, the man-made law, is the projection of national consciousness, and, as national consciousness is the sum total of the consciousness of all the individuals in the nation, it is obvious that the quality of national consciousness and the effectiveness of national law—the effectiveness of the government—depend upon the quality of individual consciousness. Therefore, for any government to be really effective and successful, it is vital that the consciousness of the individual is always in alliance with the evolutionary power of Natural Law.

(Ibid, p. 127)

Natural Law, according to Maharishi, is the unmanifest home of all the laws of nature which gives

rise to the forms and phenomena experienced as the manifest, physical universe. He therefore organised his program to into two categories: *glorification of inner life*, including the development of “higher states of consciousness”, blossoming of noble qualities, as well as “developing inner happiness, peace and fulfilling progress”; and *glorification of outer life*, including building ideal towns and cities, developing agriculture, promoting rural development, eradicating global poverty through “economic self-sufficiency”, achieving perfect health, and creating balance and harmony in nature. At the time, Maharishi stated:

Scientific research has repeatedly proved that life can be lived in full accord with Natural Law through the practice of my Transcendental Meditation, that positivity and harmony can be created and negative trends can be completely eliminated throughout society; [therefore] this is the opportune time for us now to launch a global initiative to create Heaven on Earth in a scientific way and accomplish real Heaven on Earth in this generation, so that perfection is a reality of the daily life of everyone for all generations to come.

(*Ibid*, p. 1)

The purpose of this research paper is to examine this proposition by asking: 1) was the introduction

of Vedic Science-based education associated with improvements in the quality of life and social well-being of Cambodia; 2) was the introduction of Vedic Science-based education associated with a reduction in poverty; and 3) did Cambodia’s progress during this period compare favorably to the economic and social development of its nearest neighbors, Vietnam, Lao PDR and Thailand?

The methodology employed does not attempt to establish a statistically significant causal link between the introduction of Vedic Science-based education and changes in economic and social parameters, but rather strives to document the developmental arc of Cambodia from 1980 to 2015. This research therefore draws from descriptive and quantitative data using the Social Impact Assessment (SIA) model to investigate whether the country was on a more sustainable trajectory between 1993 and 2008 when Vedic Science-based education was applied, and when comparing Cambodia’s development to other countries in its region. In accordance with standard practice guidelines (e.g., Department State Development, Infrastructure and Planning, 2013), the SIA covered the entire lifecycle of the period using best available information for Cambodia and its nearest neighbors, and where possible establish baseline data; however, it should be noted that a significant amount of historical educational and economic data is missing for Cambodia.

VEDIC SCIENCE AND EDUCATION

It is not within the scope of this paper to document in detail all the principles of Vedic Science; indeed other researchers have done so more thoroughly elsewhere (Chandler, 1989; Fergusson & Bonshek, 2015). However, a summary of its basic tenets is relevant in the context of orienting a general understanding of its relationship to education.

In the 1960s Maharishi recognised that despite the discovery of fundamental laws of nature and the technological advances afforded by modern science, the creation of balanced societies had not been achieved. He noted that modern education lacked both the ability to apply the knowledge of the laws of nature as discovered by science and the means to develop the full potential of human life and to thereby create a better world. His fundamental point was that “all weakness and problems in society have their basis in a lack of culture of the human mind, and this in turn is the result of incomplete education. Education is incomplete when it fails to develop the full creativity of the individual and fails to nurture his ability to act in accordance with all the laws of nature” (Morris, 1981, p. 7).

For this reason, Maharishi introduced his Science of Creative Intelligence (SCI) in the early 1970s and encouraged its incorporation into the educational systems of the world (Maharishi Mahesh Yogi,

1974). SCI, by “opening one’s awareness to the infinite, unbounded value of intelligence, broadens the awareness and makes it permanently unbounded, so that no area of life remains foreign. This is the ground of all knowledge—complete knowledge—and therefore is the basis of complete fulfillment. We will count ourselves successful only when the problems of today’s world are substantially reduced and eventually eliminated and the educational institutions of every country are capable of producing fully developed citizens” (Maharishi International University, 1981, p. 5). During this time, Maharishi worked directly with some of the world’s most eminent educators and theorists, including Buckminster Fuller and Nobel Prize winners Melvin Calvin, Ilya Prigogine and Brian Josephson, in formulating the applicability of SCI to contemporary education and the modern scientific disciplines (Fergusson & Bonshek, 2015).

Maharishi went on in the 1980s to locate the source of SCI in the ancient Vedic tradition of knowledge preserved in India, which he called *Vedic Science*, a science that provides a systematic and comprehensive understanding of the home of all laws of nature and its relationship to consciousness, along with the technologies for enlivening its potential for bettering human life. Vedic Science can therefore be described as a complete science of consciousness and its expressions as the laws of nature, the knowledge and

experience of which create fulfilment in individual and social life. The meaning of the term *Vedic*, Maharishi explained, incorporates:

the whole path of knowledge from the knower to the known—the whole field of subjectivity, objectivity, and their relationship; the whole field of life, unmanifest and manifest; the whole field of ‘Being’ and ‘Becoming’; the whole range of knowledge from its source to its goal—the eternal source, course, and goal of all knowledge. The word ‘Vedic’ [therefore] encompasses the whole unbounded field of space and time from point to infinity. (Maharishi Mahesh Yogi, 1994, pp. 5-6)

One of the primary experiential aspects of both SCI and Vedic Science, particularly as described in the four primary *Vedas*—*Rig Veda*, *Sama Veda*, *Yajur Veda* and *Atharva Veda*, is the Transcendental Meditation and TM-Sidhi program. This program provides each individual with the direct experience of unbounded consciousness, the field of pure creative intelligence as the home of all the laws of nature (described above as the home of “Natural Law”), and furnishes the means whereby this field of infinite creativity and energy may be harnessed for personal, social and environmental benefit (Gelderloos & van den Berg, 1989).

It can therefore be said the practice of Vedic Science by enough people in society harnesses and enlivens the home of all the laws of nature, putting these laws spontaneously to work for social benefit. [For analyses of how these principles apply to individual life, society and government, see Wells & Boothby (1995) on the *Bhagavad-Gita* and Sands (1998) on the *Valmiki Ramayana*.]

A Vedic Science-based approach to education is founded on this ancient science of knowledge and utilises a number of principles for teaching and learning. One of the primary principles states that knowledge should be unfolded according to a proper sequence, namely: first study the “wholeness of unified knowledge” and then study the “diversified parts of knowledge” (MVU, 1985). At its most basic level, this principle is applied in a student’s practice of Transcendental Meditation, which identifies the wholeness of unified knowledge on the level of personal experience, on the level of her own consciousness, prior to studying diversified disciplines or parts of knowledge. Experiencing this wholeness of knowledge within one’s own consciousness can be likened to gaining the tree of knowledge in its seed form prior to studying branches, leaves and fruit; without this experience, Maharishi maintains gaining total knowledge through studying the parts of a discipline will be impossible and education will always remain fragmented and unsatisfying.

Research suggests that this experience of “wholeness” in Transcendental Meditation is associated with maximum coherence and integration in brain functioning. High levels of coherence in the frontal area of the brain seen during Transcendental Meditation and carrying over into activity are significant because it is the executive frontal cortex which, on the basis of information from other areas of the brain, supports higher order cognitive abilities such as decision-making and moral reasoning. This holistic style of brain functioning gives insight into the meaning of the phrase “all knowledge in one brain” and how this phenomenon can be cultured through Vedic Science-based education.

On the level of intellectual knowledge and academic study, a student also first gains experience of the most expanded level of knowledge before studying its specific parts. In this way, she is oriented to the broadest and most comprehensive level of knowledge prior to studying the specialized parts of knowledge, a process which exposes her consciousness to the foundational elements of a discipline before focusing on narrower values of information, thereby developing a comprehension of the whole tree of knowledge before focusing on individual branches. Maharishi describes this level of education as the “fountainhead of all streams of knowledge” (MVU, 1991, p. 15).

According to Maharishi, the

ancient Vedic records explain why this approach to education is important. He points, by way of example, to the phrase *Brahmā bhavati sārathih* (Rig Veda, 1.158.6), which translates as: “He who thinks from this holistic field of consciousness...is naturally served in daily life by the infinite organizing power of pure knowledge” (*Ibid*, p. 9). Therefore, harnessing the field of pure consciousness first and then applying it in daily life for greater achievement is the path to more success. For this reason, Maharishi maintains that research in consciousness through the Transcendental Meditation and TM-Sidhi program is the “most vital aspect of a university, which fulfils the true meaning of the word ‘university’” (*Ibid*, p. 9). From his perspective, a university is only significant if it offers every student the complete theoretical *and* practical knowledge of the wholeness of life, an approach to higher education resulting in “all knowledge in one brain” rather than the more commonly advanced purpose of a university as “all knowledge in one campus”.

VEDIC SCIENCE-BASED EDUCATION IN CAMBODIA

In 1990, Maharishi insisted that a program of education, healthcare, agricultural reform and food self-sufficiency be launched in Cambodia (*Ibid*, 1991). He noted that Cambodia had a population of 7.4 million people but at least 6.0 million of them were poor, had 8.0 Mha of cultivable land but only 1.4 M of them were actually

being farmed, and per capita income was reported to be just US\$50 per year (compared to \$100 in Lao PDR and \$130 in Vietnam). Maharishi therefore invited the government of Cambodia to start a program of educational and economic recovery by implementing his programs to improve the lives of every Cambodian through a variety of Vedic Science-based initiatives, including the eradication of poverty through agriculture. He stated that “the natural beauty of Cambodia—its lakes and rivers, mountains, slopes, and plains—can really be converted into a lively Heaven on Earth; [the beauty of Cambodia] will invite any lover of life to come, live and enjoy Heaven on Earth in Cambodia” (*Ibid.*, p. 92).

To this end, Samdech Tep Vong, then Supreme Patriarch of Cambodia, visited Maharishi in 1991 to discuss creating lasting peace and prosperity (Australian Aid for Cambodia Fund [AACF], 1992). [Tep Vong, who is widely recognized as the first person to rejoin the monkhood after the fall of the KR, was subsequently elevated to *Samdech Preah Agga Mahā Sangharājādhipati* or Great Supreme Patriarch in 2006, the first monk in over 150 years of Cambodian history to receive this title; he stated publicly: “we have the same feelings and aspirations, most importantly the establishment of lasting peace in Cambodia” (Fergusson & Bonshek, 2013, p. vi).] As a sign of goodwill, and given that Cambodia only had a handful of qualified doctors, Maharishi immediately deputed four

Ayur-Vedic doctors (or *Vaidyas*) from India to begin treating patients in Phnom Penh, a practice that would see an outpouring of need rise to 5,000 patients treated each day for basic as well as advanced diseases, with a total of 300,000 people treated in a two-month period in 1991 (AACF, 1992).

Maharishi had, in fact, had a long-standing concern for the plight of Cambodia. In November 1978 he had launched an initiative to bring peace to Cambodia during the KR reign as part of his global World Peace Project (Orme-Johnson & Dillbeck, 1987) by sending 200 experts in the Transcendental Meditation and TM-Sidhi program to Thailand, including to an area close to its border with Cambodia, to bring an influence of balance and peace through meditation. Within two months ex-patriot Cambodians and the Vietnamese army overthrew the KR in January 1979, beginning the current period of stability in Cambodia. In this one example, evidence suggests the implementation of Vedic Science-based programs impacted the future of Cambodian society.

In 1983, Maharishi also initiated a large-scale cultural exchange and meditation program in Vietnam (the program was originally slated for Cambodia, but the borders were still closed) by sending a group of 100 experts to create coherence in the collective consciousness of Southeast Asia (AACF, 2000). This program consisted of the largest group of

Westerners allowed to visit Vietnam after the Vietnam War, with the group practicing their peace-creating techniques in a location close to Vietnam's border with Cambodia.

The principles and mechanics of how a group of meditation practitioners contribute to changes in the fortune of a country by alleviating political and social tension have been discussed elsewhere by Davies and Alexander (2005) and Orme-Johnson and Dillbeck (1987), and these are fundamental to an understanding of what prompted the research questions under consideration in this study. The "action-at-a-distance" phenomenon of groups of meditating experts having an effect on economic and social outcomes has been described by sociologists as the *Maharishi Effect* (e.g., Cavanaugh *et al.*, 1990) because Maharishi predicted in the 1960s that coherence in individual life will affect the order, harmony and progress of a nation, a phenomenon posited by this research in Cambodia.

As a result of Maharishi's

insistence that a university be established in Cambodia, a group of Australian well-wishers, medical doctors and educators constituted a non-governmental organisation (NGO) called the Australian Aid for Cambodia Fund in 1991. AACF (1991) began a threefold initiative to raise funds to support the new university (Soltau, 1994), to cultivate self-sufficiency in healthcare and agriculture, and to send qualified individuals to Cambodia to begin working with the Ministry of Education, Youth and Sport (MoEYS) to locate land, design and build a new MVU and healthcare center, recruit and enroll students, and to begin classes as soon as possible.

By November 1991, AACF and MoEYS had identified 70 ha of land 140 km east of Phnom Penh. The land (plus an additional 80 ha for later agricultural development) was subsequently donated to MVU by His Excellency (now the late) Samdech Chea Sim, then President of the National Assembly (AACF, 1996, p. 1). By late 1992, the buildings and

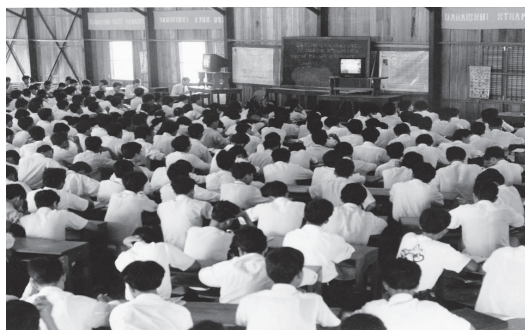


Fig. 1: First MVU cohort studying Vedic Science, January 1993 (left); faculty housing in the Khmer style (right).

basic infrastructure for MVU (*Sakal Vichealay Vedic Maharishi* in Khmer) and the healthcare center had been constructed with the support of AACF (Fergusson & Bonshek, 2013).

Site preparation included the

on-campus students, along with improved sports, recreational and library facilities, see Figures 1-3).

In October 1992, MoEYS announced that MVU would begin

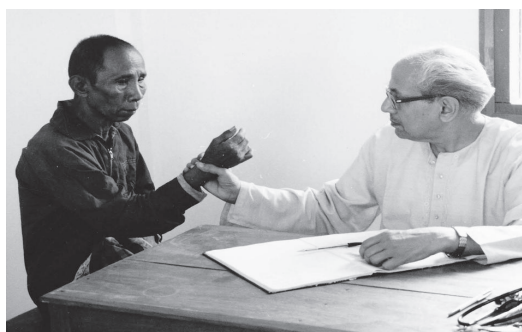


Fig. 2: MVU healthcare centre in 1993 (left); Ayurvedic doctor consulting with local patient (right).

installation of roads, wells, fencing, and power generation, as well as an assembly hall to seat 600 students, four classrooms for 40 students each (designed using principles from traditional Khmer architecture), student housing for 450 students, administrative facilities and faculty housing for 35 foreign and local staff, and playing fields, gardens and landscaped areas (these were later expanded to house up to 1,000

classes on January 1st, 1993, and issued application forms to potential students; with more than 5,000 applicants in November 1993, MVU and MoEYS selected 550 high school graduates. Therefore, beginning in 1993 Vedic Science-based education was implemented at MVU with the express purpose of improving the lives of students as well as affecting the quality of life of Cambodia as a whole.



Fig. 3: Students practicing the Transcendental Meditation and TM-Sidhi program in 2002 (left); learning centre and library in 2002 (right).

As a consequence, between 1993 and 2008 a group of about 500-700 university students each year practiced Transcendental Meditation and subsequently the TM-Sidhi program together twice a day (see Figure 3, left). [As part of a national reorganization, the curriculum and name of MVU were changed in 2008 to Chea Sim University of Kamchaymear (CSUK) (see Figure 4) and the coherence-creating programs of Vedic Science ended at that time. For a more complete description of the lifecycle of MVU and its evolution into CSUK, see Fergusson & Bonshek, 2013.]

Research conducted during 1993 suggested Vedic Science-based education had a salutary effect on

declines in anxiety and depression, improvements in mental and physical health, and increased sociability of MVU students compared to students at two other universities. MVU students also reported they found the practice of Transcendental Meditation helped them retain knowledge, improved their memory, self-confidence, and comprehension of difficult subject matter, and decreased their levels of worry about the future (Fergusson, *et al.*, 1994).

These findings suggest Vedic Science-based education laid the personal foundations of peace and orderliness which subsequently contributed to the broader social and economic benefits described in this research paper and support



Fig. 4: Adminstration building in the Kmer style at CSUK in 2013 (left); main adminstration building and classrooms at CSUK in 2013 (right).

student intelligence, general health, anxiety and other characteristics of post-traumatic stress disorder. For example, Fergusson *et al.* (1996a) found the curriculum contributed to increased non-verbal intelligence of MVU students when compared to other Cambodian students, and Fergusson *et al.* (1995) reported

Maharishi's claim that his programs result in the "glorification of inner life".

ECONOMIC AND SOCIAL DEVELOPMENT INDICATORS

By any standard the growth of Cambodia's economy since 1980 can

be described as “remarkable” (World Bank, 2014, p. xiv), with a surge in growth being particularly pronounced when MVU students practiced the Transcendental Meditation and TM-Sidhi program together between 1993 and 2008.

Whereas, Cambodia was the poorest country of the 42 poorest countries in the world in 1990 (MVU, 1991) and was the poorest of 152 countries (Economic Institute of Cambodia, 2008), after implementation of Vedic Science-based education Cambodia’s gross domestic product (GDP) annual growth rates averaged 9.6% between 2004 and 2009, the World Bank (2014) reported Cambodia’s industrial sector growth rates equaled as much as 30% of GDP after the late 1990s, and per capita GDP grew 54.5% between 2004 and 2011, placing it 15th among 174 countries. As a consequence, by 2010 Cambodia ranked 63rd out of 152 countries on a standardised poverty scale; the World Bank’s (2014) expression “where have all the poor gone?” sums up Cambodia since the early 1990s.

GROSS DOMESTIC PRODUCT

Table 1 presents a variety of economic data for Cambodia between 1974 and 2014. Cambodia’s GDP generally accelerated in the years following the establishment of MVU, achieving its highest annual growth rate between 1994 and 2006. For example, in 1980 Cambodia’s GDP equaled \$769 million while the average for least developed

countries (LDCs) in Asia was \$31,563 million, meaning Cambodia’s GDP was 2.5% of the average. In 1990, Cambodia’s GDP equaled \$1,698 million, a 120% increase over 1980, and its GDP equaled 3.5% of the average; by 2000, GDP was \$3,667 million, a 115% increase over 1990 and 45% over 1993, equaling 4.5% of the average. However, by 2005 GDP was \$6,293 million, a 70% increase over 2000, equaling 6.3% of LDCs average. Therefore, between 1990 and 2005, Cambodia’s GDP as a proportion of LDCs increased by 152%.

Five years later, Cambodia’s 2010 GDP equaled \$11,242 million, a 79% increase over 2005, equaling 5.0% of LDC average; by 2014, GDP was \$16,700 million, which represented a 14% increase over 2000, with Cambodia’s GDP representing 5.0% of the LDC average. While GDP levels increased throughout the period, with the highest annual rates of change being 1994, 2000, 2004 and 2006, their relation to the LDC average was also higher during the 1990s and early- to mid-2000s when compared to the periods before or after MVU (i.e., 4.5% versus 3.5% and 6.3% versus 5.0%).

Cambodia’s annual per capita GDP growth rates between 1996 and 2012 with trend lines for 1996-2007 and 2008-2012 are presented in Figure 5. The impact of the global financial crisis (GFC) is evident between 2007 and 2009, but Cambodia’s economy recovered by

2010 showing similar, albeit lower, trend growth.

This data indicate growth of the economy as a function of population

starting three years after the establishment of MVU (World Bank, 2015; National Institute of Statistics [NIS], 2010). The World Bank

Table 1
Cambodia's GDP, per cent increase of GDP, GDP for Asian LDCs, and Cambodia's GDP as a percentage of least developed Asian countries between 1974 and 2014.

Year	GDP (in billions \$)	Annual Change in GDP (%)	Per Capita GDP (\$)	Average GDP for Asian LDCs (in billions \$)	GDP as a Percentage of the Average GDP for Asian LDCs
1974	0.56†	—	77	—	—
1980	0.77†	—	—	31.6†	2.5
1990	1.7†	—	—	47.5†	3.5
1992	2.5	—	—	—	—
1994	2.8	9.0	269	—	—
1996	3.5	5.4	318	—	—
1998	3.1	5.0	268	—	—
2000	3.6	8.7	299	78.6†	4.5
2002	4.3	6.7	337	—	—
2004	5.3	10.3	407	—	—
2005	6.2	—	—	—	—
2006	7.2	10.7	537	113.3† (2005)	6.3
2008	10.3	6.7	742	—	—
2010	11.2	6.0	782	222.8†	5.0
2012	14	7.3	947	—	—
2014	16.7	7.0	1090	—	—

Source: The World Bank, 2015, except † United Nations Conference on Trade and Development [UNCTD], 2013, pp. 418-422.

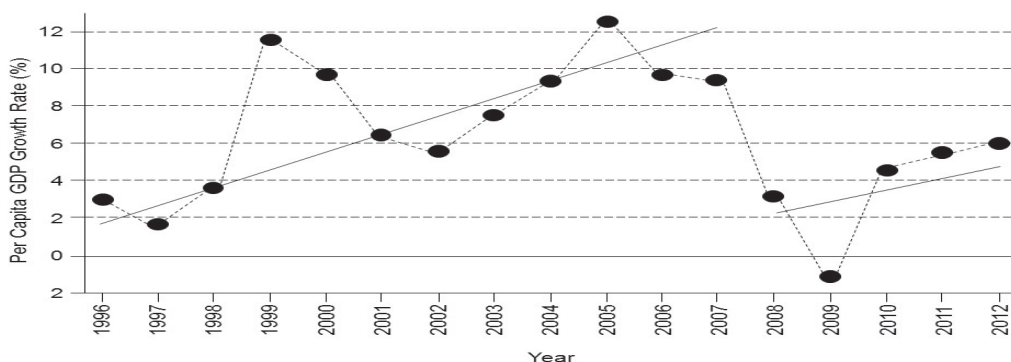


Fig. 5 : Cambodia annual per capita GDP growth rates between 1996 and 2012 with trend lines between 1996 and 2007 and between 2008 and 2012

Source : World Bank, 2014 p. xiv

reported that Cambodia's per capita GDP growth between 1994 and 2008 was 179%; this is considerably higher than Thailand's growth of 70% and roughly the same as Lao PDR's rate of 200%, but less than Vietnam's per capita GDP growth of 400%, which was \$230 in 1994 and grew to \$1,164 by 2008.

Gross National Income and Inflation

The sum of Cambodia's GDP plus net income received from overseas is the

gross national income (GNI). Table 2 presents the annual GNI, annual per cent change in GNI, per capita GNI, growth rates of GNI and annual change in consumer price index (CPI) for Cambodia between 1974 and 2014. While GNI and per capita GNI both increased steadily throughout the period, the annual percentage change in GNI and the annual per capita change of GNI were greatest between 2000 and 2006. The annual percentage changes in GNI from 1996 to 2014 with trend lines between

Table 2
Cambodia's GNI, annual change in GNI, per capita GNI, annual change in per capita GNI, and annual change in CPI between 1974 and 2014.

Year	GNI (in billions \$)	Annual Change in GNI (%)	Per Capita GNI (\$)	Annual Per Capita Change in GNI (%)	Annual CPI Change (%)†
1974	0.59	—	—	—	—
1989	—	—	—	—	63.8
1990	—	—	—	—	141.8
1991	—	—	—	—	191
1992	—	—	—	—	75
1993	—	—	253	—	114.3
1994	—	—	269	—	10.4
1995	3.3	—	260	—	10.0
1996	3.4	4.6	264	1.5	7.1
1998	3.0	4.4	279	1.7	12.9
2000	3.5	8.1	319	5.7	-0.8
2002	4.1	5.6	349	3.6	-0.3
2004	5.3	10.1	406	8.3	3.9
2006	6.9	11.0	492	9.3	6.1
2008	9.9	6.1	560	4.6	24.9
2010	10.7	5.5	574	3.9	3.9
2012	13.4	7.7	644	5.9	2.9
2014	15.9	6.7	712	—	3.8

Source: World Bank, 2015 (note, no GNI records kept between 1974 and 1995), except † International Monetary Fund [IMF], 2015.

1996 and 2007 and between 2009 and 2012 are presented in Figure 6.

significantly during the intervention period.

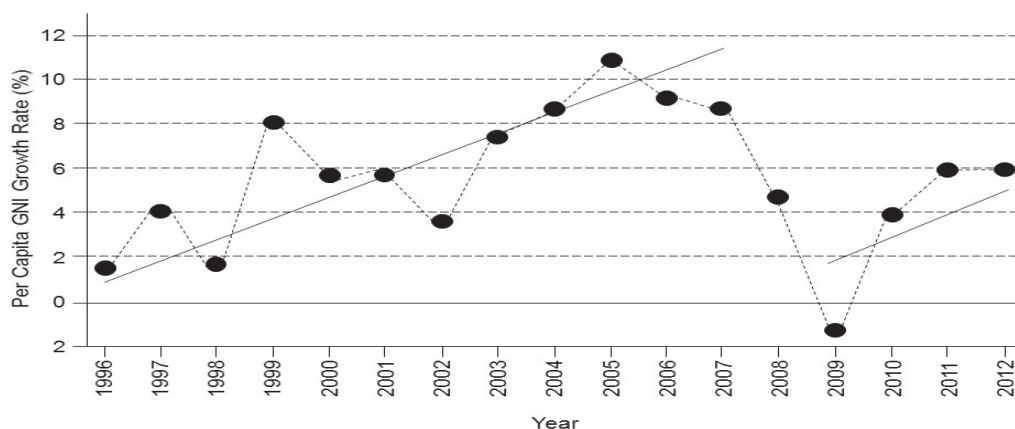


Fig. 6 : Cambodia annual per capita GNI growth rates between 1996 and 2012, with trend lines between 1996 and 2007 and between 2009 and 2012.

Source: World Bank, 2015

CPI data for the intervention period show a striking effect beginning immediately after the establishment of MVU. Table 2 and Figure 7 present the rates of inflation in Cambodia between 1989 and 2014. This data indicate inflation rates decreased sharply in 1994, dropping from a five-year average of 119% and 114.3% in 1993 to 10.4% immediately after the establishment of MVU.

Inflation rates remained at or close to zero through to 2008 when they increased to 24.9% before settling down again to under 4%. This finding suggests that not only did the Cambodian economy improve significantly between 1994 and 2008, but consumers' ability to pay for goods and services also improved

Exports

Table 3 presents data for exports from 1980 to 2010. UNCTAD (2013) reported that Cambodia's exports rose from \$16.0 million in 1980 to \$86 million in 1990 (a 435% increase), to \$1,389 million in 2000 (a 1,500%), to \$3,092 million in 2005 (a 120% increase), and to an estimated \$5,143 million in 2010 (an increase of 65%). Put another way, in the ten years before MVU was established, Cambodian exports rose by an average of 43% per year; during the first ten years that MVU operated, exports rose by an average of 150% per year; and in the next five years, exports rose by 120% or an average

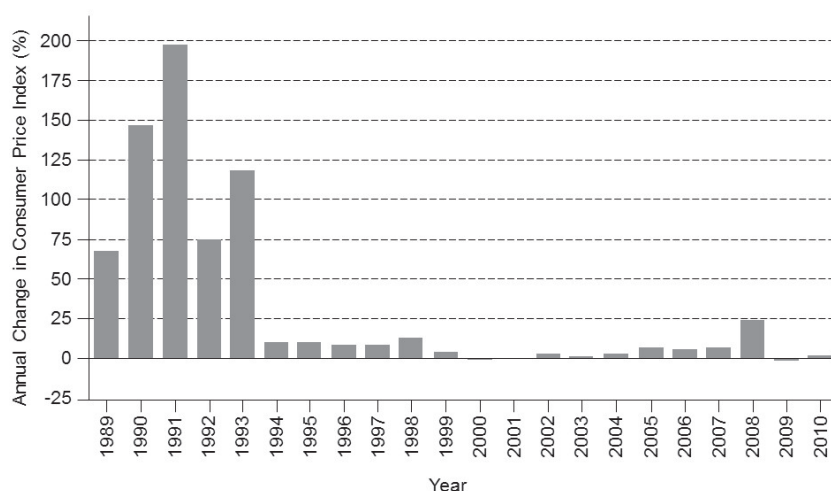


Fig.7 : Cambodia annual per cent change in consumer price index between 1990 and 2001.

of 24% per year. During these years, total debt service as a percentage of exports fell from 3.8% in 1990 to 1.1% by 2001 (United Nations Development Programme [UNDP], 2003, p. 230).

Similarly, Cambodia's exports to average exports for all LDCs indicate that Cambodia out-performed many of its neighbors (UNCTAD, 2013, p. 20). As reported above, in 1980 Cambodia exported goods valued at \$16 million when the LDC average was \$2,129 million; Cambodia's exports represented just 0.8% of the average. In 1990, Cambodia's exports represented 2.5% of the average, a ranking gain of 1.7% and a percentage gain of 210% or 21% per year. However, by 2000 Cambodia's exports represented 9% of the average, for a ranking gain of 6.5% but a percentage gain of 260% or

26% per year. In 2005, again exports represented 13% of the average, another ranking gain of 4%, but by 2010 represented 12% of the average, a decline of 1%. It can therefore be concluded that Cambodia's greatest export gains as a percentage of the LDC average were between 1990 and 2005. From this data it can also be seen between 1990 and 2005 the value of Cambodia's exports increased more significantly as a percentage of the average either before or after the intervention period.

This same general trend in relation to Cambodia's export contribution to the Asian region can be seen in Table 3. Cambodia's percentage contribution to total regional exports was 0.001% in 1980, 0.002% in 1990 (a 100% increase over ten years), 0.17% in 1995 (a 750% increase over five

years), 0.22% in 2000 (a 30% increase over five years), 0.29% in 2005 (a 32% increase over five years), and 0.34% in 2010 (a 20% increase over five years). The obvious surge in Cambodia's export contribution to Asian exports after 1995 is pronounced.

Poverty

Data on poverty since 1981 are presented in Table 4, although a significant amount of data is missing from the historical record. The percentage of undernourished people in Cambodia fell from 30% of the population in 1994 when MVU was established to 18% by 2008, a 40% reduction. The percentage of the population living in poverty also fell from 45% to 21% during the same period.

The poverty gap ratio is the mean shortfall of the total population from

the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line; this measure reflects the depth of poverty as well as its incidence, and shows that poverty decreased by 63% between 1994 and 2008 from 12% to 4.4%. During roughly the same period, the percentage of the population with access to sanitation facilities and clean water increased from 3% to 30% and 28% to 60% respectively. The World Bank (2014) reported that Cambodia's poverty rate decreased by 63.3% between 2004 and 2011 (from 41.6% to 15.3%) and wealth rose inversely on an indexed scale from 1.6 to 2.3 (or 45.6%) during the same period.

Data for even the poorest rural population indicate that poverty decreased from 59% in 2004 to 24% in 2011 (World Bank, 2015). The

Table 3
Cambodian exports and relationship to exports for Asian LDCs and total Asian export averages between 1980 and 2010.

Year	Cambodian Exports (in million \$) and change to previous reporting period (%)	Average Exports for Asian LDCs (in million \$)	Cambodian Exports as Percentage of Exports for Asian LDCs (%)	Cambodian Exports as Share of Exports for Asian Countries (%)
1980	16	2,129	0.8	0.001
1990	86 (435)	3,334	2.5	0.002
1995	—	—	—	0.17
2000	1,389 (1,500)	14,852	9.0	0.22
2005	3,092 (120)	23,868	13	0.29
2010	5,143 (65)	43,031	12	0.34

Source: UNCTAD, 2013.

international community's definition of "poverty" has changed over time, and is classified differently in some countries and in some economic settings, but the phenomenon of declining poverty in Cambodia is relatively uniform regardless of definition. The trend for poverty reduction in Cambodia is not dissimilar to other Asian countries, and many of the gains in poverty removal were occurring prior to the United Nations' millennium development goals of 2000 (World Bank, 1990, 2014).

Food poverty also declined significantly in Cambodia between

2004 and 2011: in Phnom Penh, it declined from 15.8% in 2004 to 1.3% in 2011; in other urban areas it declined from 39.6% to 16.1%, and in rural Cambodia food poverty declined from 58.9% to 23.7% (World Bank, 2014). The percentage of household budgets dedicated to purchasing food declined from 68% of the household budget in 1993 to 54% in 2008, but remaining at 51% ever since (World Bank, 2014, p. 108), and undernourished people as a percentage of the population decreased from 43% in 1990-1992 to 36% in 1998-2000 (UNDP, 2003).

Table 4
Cambodian poverty metrics between 1981 and 2012

Year	Population Undernourished (%)	Population Living in Poverty (% living on less than \$1.25 per day)	Poverty Gap Ratio (%)	Slum Population (as a % of urban population)	Access to Sanitation (% of population)	Access to Clean Water (% of population)
1981	—	86	—			
1990	32	77	—	—	3	23
1992	30	—	—	—	—	24
1994	30	45	12	—	—	28
1996	32	—	—	—	—	33
1998	37	—	—	—	—	37
2000	32	—	—	—	16	42
2002	26	—	—	—	—	46
2004	22 (16†)	33 (53.3†)	7.8	79	—	51
2006	20	31	7.2	—	27	55
2008	18	21	4.4	—	30	60
2010	17 (3.8†)	11 (20.5†)	1.7	—	34	64
2012	16	10	1.4	55	37	69

Source: United Nations, 2013 and Asian Development Bank, 2014, except † derived from the World Bank, 2014, p. 105.

Health

Another cornerstone of social well-being is health because there is a direct link between poverty and health. Cambodia has made impressive advances in health care since the early 1990s when there were virtually no doctors or hospitals in the country; by 2011 there were six national hospitals, 83 referral hospitals and 1,024 health centers, and the Ministry of Health alone now employs a staff of 19,700, including 3,200 doctors, 9,000 nurses and 4,600 midwives (World Bank, 2014).

Table 5 presents data related to health trends in Cambodia, including infant mortality rates of 86 babies per 1,000 live births in 1992 prior to the establishment of MVU decreasing to 42 by the time it closed in 2008, (a 50% reduction in mortality). Infant mortality rates of 118 children per 1,000 live births for 1-5 year-olds in 1992 also decreased to 50 by 2008 (a 57% reduction), maternal mortality rates decreased by 1,200 per 100,000 births in 1990 to 200 by 2010 (an 83% reduction), and the number of adolescents giving birth declined from 90 per 1,000 women before

MVU began to 48 women by 2008 (a 46% reduction).

According to the IIC (2002), the maternal mortality rate in Cambodia in 2000 was 470, compared to 650 in Lao PDR, 160 in Vietnam, and 44 in Thailand, and from 1960 the infant mortality rate in Cambodia was 146 compared to 155 in Lao PDR, 147 in Vietnam, and 103 in Thailand, but these rates only declined to 104 in Cambodia compared to 96 in Lao PDR, 31 in Vietnam, and 30 in Thailand by 1998. Similarly, in 1960 the infant mortality rate for children between 12 months and five years of age in Cambodia was 217 compared to 235 in Lao PDR, 219 in Vietnam, and 148 in Thailand, but these rates had declined to 163 in Cambodia compared to 116 in Lao PDR, 42 in Vietnam, and 37 in Thailand by 1998. The World Bank (2014) reported that the percentage of pregnant women receiving prenatal care in Cambodia grew from 34.3% in 1998 to 89% by 2010, a 160% improvement.

The IIC (2002) also reported on immunization rates for all diseases of children up to the age of two between 1988 and 1999, and found rates were 40% in 1988, 34% in 1990, 32% in 1992, 54% in 1994, 70% in

Table 5
Cambodian infant and maternal mortality rates, adolescent birth rate and immunization rates between 1960 and 2012.

Year	Infant Mortality (0-1 years per 1,000 live births)	Infant Mortality (1-5 years per 1,000 live births)	Maternal Mortality (per 100,000 live births)	Adolescent Birth Rate (per 1,000 women)	Immunization Against Measles (% children ages 1-24 months)	Per capita Spending on Healthcare (\$)
1960	146†	217†	—	—	—	—
1990	86	118	1,200	—	34	—

1992	86	118	—	90	—	—
1994	87	120	—	—	—	—
1996	88	123	860	52	—	22.8
1998	89	122 (168†)	500†	51	—	15.8
2000	82	111	540 (470†)	—	65	17.4
2002	69	90	—	52	—	19.9
2004	57	71	—	—	—	25.7
2006	48	58	320	—	78	22.5
2008	42	50	—	48	89	40.9
2010	37	44	200	—	93	45.5
2012	34	40	170	30	93	69.4

Source: World Bank, 2014, except † IIC, 2002, pp. 67 and 221.

1996, 62% in 1998 and 1999. Table 6 indicates that immunization rates against measles increased from 34% of children in 1990 to 89% by 2008, a 160% increase in rates over 18 years.

The impact of war and social neglect on life expectancy can be seen in Figure 8. Life expectancy was 41.2

years and 41.8 years respectively in 1960 to 1970, but by 1974, at the onset of KR rule, this figure had dropped to 28.1 years in 1974 and to 24.1 years after the KR period in 1979. However, by 1993 life expectancy had risen to 56.4, rising steadily to 71.7 by 2013.

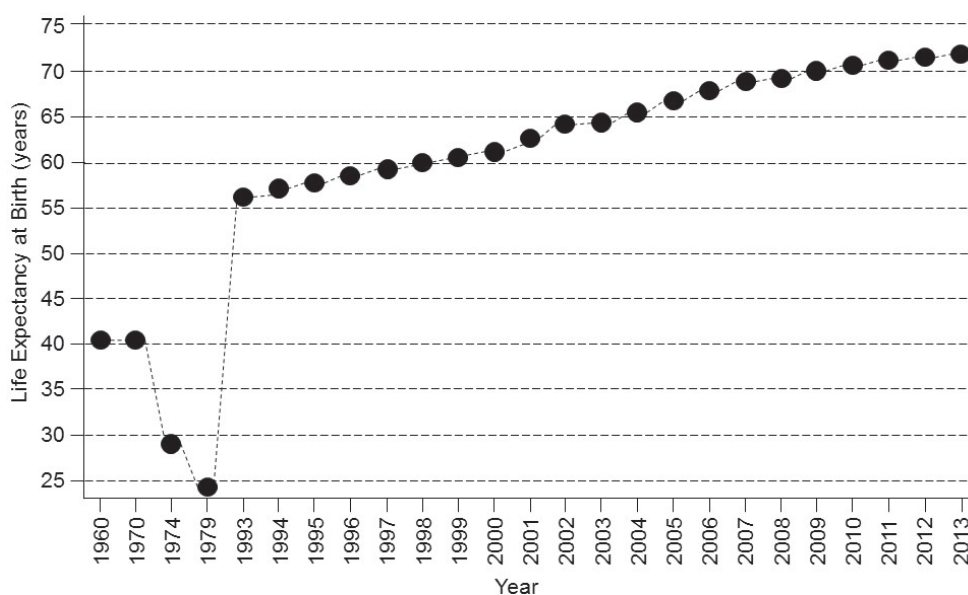


Fig. 8 : Cambodian life expectancy between 1960 and 2013

Source: World Bank, 2015.

Data much more nuanced than are provided here, for example providing poverty information on a province-by-province basis with poverty predictors and vulnerability markers, is available but from this data it can reasonably be concluded that overall health trends are largely consistent across parameters and that general health has improved significantly since the early 1990s.

Education

The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2011) has documented the relationship between armed conflict and education in five countries, including Mozambique, between 1990 and 2008 finding that in conflict zones children are less likely to be in school, child mortality rates are higher, youths and adults are less likely to be literate, children are more likely to be malnourished, and girls are left behind. However, UNESCO goes on to state that entry into the last grade of primary school in Cambodia increased from 41% in 1999 to 79% in 2008 due to a decline in civil unrest.

Moreover, as a result of generally improved conditions Cambodia has experienced significant expansion in education. A variety of indices can be used to measure educational development, including literacy rates, female participation rates, intake ratios, and enrolments and completion rates, and UNESCO (2011) points to correlations between

maternal education and infant mortality (i.e., each year of maternal education reduces the risk of infant mortality by between 7-9%) and between maternal education and immunization which goes directly to relationship between child mortality and education enrolments.

UNESCO therefore speaks about an “education dividend” in which larger investments in education result in significantly reduced loss of life (it claims that education of 100% of women in sub-Saharan Africa would result in saving 1.4 million lives), and a “seizing the peace” dividend (i.e., investing in the right areas of the economy, including health and education), which has paid off handsomely for Cambodia because it made these priority areas after the period of conflict. UNESCO (2011) maintains that where many countries do not learn from history and view education as just another “social sector” to be reconstructed, the Cambodian government viewed it as an integral part of a peace-building initiative and sought “quick wins and a new start”. The origins of MoEYS’s effort to found MVU in Cambodia has its roots in this stratagem.

Table 6 presents school enrolments, staff and expenditure data for Cambodia between 1980 and 2010. Primary school enrolments increased from 1.3 million students in 1990 before MVU and increased to 2.65 by 2006, a 105% increase; when compared to Lao PDR, whose primary enrolments barely changed over the

same period, the growth is significant (UNESCO, 2011, p. 33). Similarly, secondary school enrolments increased from 300,000 children in 1990 to 800,000 children in 2006, a 160% increase over 16 years.

According to UN (2012), Cambodia spent 10.9% of its budget on education in 1994 growing to 20.8% by 2010. These data compare favorably to Vietnam, which only spent 5.7% of its budget on education in 2008. UNESCO maintains the Cambodian annual education budget

grew by 17% between 1999 and 2008, whereas the growth in the education budgets of Thailand was 7% and Lao PDR was 18%. Even after the GFC, the Cambodian government increased education spending, according to UNESCO (2011).

Persistence to attend the last grade of primary school with your cohort is negatively correlated with poverty (UNESCO, 2011), and in Cambodia persistence was 35% for girls and 44% for boys in 1995, increasing to 57% for girls and 52%

Table 6
Primary and secondary student enrolment rates, number of teachers, and percentage of national budget spent on education between 1980 and 2010.

Year	Primary School Enrolments (millions)	Primary School Attendance (% of school-age children)	Primary School Teaching Staff (thousands)	Secondary School Enrolments (thousands)	Secondary School Attendance (% of school-age children)	Secondary School Teaching Staff (thousands)	Percent of National Budget Spent on Education (%)
1980	1.3	—	30	—	—	—	—
1985	1.3	—	35	—	—	—	—
1990	1.3	70	40	300	—	—	—
1992	—	—	40.8 [□]	260 [□]	—	—	—
1994	—	—	37.6 [□]	—	—	—	10.9 [#]
1996	1.65 (1995)	—	—	350 [□]	—	20	11.2 [#]
1998	2.1 [†]	84.5 [□]	43.2 [□]	310 [□]	16.3 [□]	19 [□]	9.4 [#]
1999	2.2 [†]	86.4 [□]	44.5 [□]	310 [□]	14.6 [□]	17.9 [□]	13.2
2000	2.25	91.9 [□]	44.8 [□]	350 [□]	15.3 [□]	20	16.0 [#]
2001	2.8 [†]	97.3 [□]	45.9 [□]	390 [□]	16.6 [□]	20.2 [□]	14.7 [#]
2002	—	—	48.4 [□]	470 [□]	22.0 [□]	21 [□]	18.4 [#]
2004	—	—	50.1 [□]	630 [□]	27.3 [□]	27 [□]	19.8
2006	2.65 (2005)	95.2 [□]	51.2 [□]	811 [□]	31.9 [□]	30	19.2 [#]
2008	—	98.1 [□]	48.2 [□]	930 [□]	38.1 [□]	—	—
2010	—	98.1 [□]	46.9 [□]	—	—	—	20.8 [#]

Source: UNESCO Bangkok, 2008, except [†] World Bank, 2002, p. 2, [□] World Bank, 2015, and [#] Un, 2012, pp. 44-45.

for boys by 2008 (World Bank, 2015). Primary school completion rates also increased from 43% in 2000 to 83% by 2005. UNESCO (2011, p. 55) indicates that secondary education completion rates also increased in Cambodia from 18% in 1999 to 42% by 2008 (a 130% increase), a change somewhat observed in Lao PDR, which increased completion rates from 32% to 44% (a 40% increase) over the same period. This finding further confirms that as poverty rates declined in Cambodia, persistence and completion rates increased inversely.

As a consequence, youth literacy rates in Cambodia increased from 73.5% in 1990 to 79.7% in 2001 (UNDP, 2003), and UNESCO (2011) maintains that Cambodia will achieve its millennium development adult literacy target of 97% by 2015, unlike both Thailand and Lao PDR. Prior to the establishment of MVU, adult literacy rates were 38% in 1980 and 46% in 1990, and these increased from 61.5% in 1998, 68.7% in 2000, 64% in 2002, 74% in 2004, 84.7% in 2006, and 78% in 2008 to reach 90% by 2012, a 95% improvement over 22 years.

The Ministry of Women's Affairs (2004) also reported that the number of girls completing lower secondary school jumped from 55.3% in 2002 to 75% in 2003, and the number of girls completing the last three years of secondary school rose from 13.9% to 23.3% during the same period; the overall number of children enrolled in primary, lower secondary and higher

secondary education also rose in both rural and remote areas between 1998 and 2003.

War and Democracy

The IIC (2002) has documented the many dimensions of social reconstruction that have taken place in Cambodia since 1980. However, it can be argued that perhaps the most relevant and far-reaching event related to social reconstruction and well-being is the incidence of war.

Hatchard and Cavanaugh (2009) showed that from 1990 to 1998 a total of 70 nations sought to change their system of government to a multi-party democracy. Of these, 33 nations did not experience war either before or after their transition to democracy, nine had civil war both before and after elections, and 26 nations had no war prior to democratic elections but bloody civil conflict soon thereafter. Only three nations out of 70 during this period had war before, but peace after, democratic elections—Cambodia, Mozambique and Namibia. The authors note that all three nations benefited from the intervention of Vedic Science-based educational, health and social welfare programs. As a result, since the introduction of Vedic Science-based education in Cambodia deaths related to war declined from 268 per year in 1993 to 14 in 2011 (World Bank, 2015).

[The impact of Vedic Science-based programs in Mozambique has been documented elsewhere (Astill,

2001), and other published sources documented similar outcomes for 48 cities in the US (Dillbeck, *et al.*, 1981), Lebanon (Abou Nader, *et al.*, 1989), and Holland, India, Puerto Rico and the Philippines (Burgmans, *et al.*, 1989).]

DISCUSSION AND CONCLUSION

This study has not attempted to statistically control for all possible compounding variables (indeed an SIA does not allow for such dependence), however a brief consideration of obvious compounding factors is warranted. For example, the United Nations Transitional Authority in Cambodia (UNTAC) was established in February 1992 under UN Security Council Resolution 745 to implement the Paris Peace Accords of October 1991 and oversee the country's first "free and fair" elections (IIC, 2002). UNTAC was headed by Yasushi Akashi of Japan, Lieutenant-General John Sanderson of Australia, and Brigadier-General Klaas Roos of the Netherlands, who led approximately 22,000 military and civilian personnel. An argument may be made that UNTAC was responsible for Cambodia's subsequent economic and social revival, although most impartial observers are circumspect about its long-term role (e.g., Findlay, 1995).

While it is indisputable that UNTAC affected 1990s Cambodia, it would be foolhardy to lay praise for economic progress and social well-being at the feet of UNTAC: while the

Authority "satisfactorily" achieved some of its goals, it cannot reasonably be claimed that it helped create favourable conditions in Cambodia during the early 1990s, particularly as it was directly responsible for the introduction AIDS into the country, caused highly inflated property prices in Phnom Penh during the early 1990s, had to remove its own Bulgarian military contingent because they threatened to kill Lieutenant-General Sanderson, and "failed to bring peace to Cambodia" (*Ibid*, p. 106). The least parsimonious conclusion would be to say UNTAC partially contributed to political stability upon which future development might be realised.

Other possible factors include the transition from a centralized, planned economy to a market-driven economy in 1995 and integration into international markets thereafter, and the role of NGOs and foreign investment in Cambodia's development, however many of these occurred after the observed phenomena described herein and may have been caused by it. There can be no doubt the GFC adversely affected the economies of many countries (e.g., growth in Cambodia's garment sector dropped from 10% in 2007 to 2.2% in 2008 [NIS, 2010]); that it occurred at a time coincidentally with the conclusion of MVU's operation and influence of coherence generated by group meditation in 2008 means it is not reasonably possible to isolate the impact of one from the other on post-2008 Cambodian data. The most

reasonable interpretation suggests that on some economic measures, Cambodia's rate of growth returned to trend three years after the GFC, but at significantly lower levels of performance.

There can, however, be no doubt that Cambodia's development after the early 1990s is "remarkable", and the data indicate Cambodians' quality of life generally and significantly improved after 1993. While many governmental and non-governmental initiatives may have contributed to this trend, and some changes may not be attributed solely to the implementation of Vedic Science-based education, it should be remembered that Maharishi established MVU and implemented his programs for social welfare in Cambodia expressly to achieve these economic and social outcomes and predicted their occurrence prior to implementation in 1991 and prior to most of the growth trends reported by this research. His prognoses included the development of agriculture, promotion of rural development, and eradication of poverty through "economic self-sufficiency", all of which have been either partially or fully accomplished since the introduction of Vedic Science-based education. As a consequence, research question 1) can be answered in the affirmative.

Similarly, several factors may have contributed to the reduction of poverty in Cambodia (for example, the millennium development

goals of the United Nations [2013] have been central to a successful worldwide effort to reduce poverty), but the international focus on and momentum for poverty removal in Cambodia occurred mostly after 2000, i.e., well after the beneficial trends reported herein began. While a causal link between the introduction of Vedic Science-based education and a reduction in poverty after 1993 cannot be established by an SIA, enough data have been presented to indicate the two are correlated, and therefore research question 2) can also be answered in the affirmative.

Finally, in answering research question 3), it is clear from the data that Cambodia more often than not out-performed its nearest regional neighbors on several scales, and generally out-performed Asian LDCs, thereby answering the question affirmatively. Further time-series analyses, meta-analyses, and other quantitative measures (if possible on the limited data available) and other quantitative measures and methods may later confirm these conclusions.

Therefore, while collectively the factors described above may have contributed to an improved Cambodia, it is reasonable to conclude that Vedic Science-based education played a significant role in this process because virtually all other inputs were generally directed at impacting policy and procedural development, law and order, and human rights, whereas Vedic Science-based education was directed specifically at developing

the inner aspects of life, such as intelligence, creativity, happiness and peace, and from there change on the more outward aspects of social behavior and the environment were impacted.

In this sense, Vedic Science-based education represents a new approach to social change: it specializes in developing the inner, holistic values of life by reducing individual and collective stress and fostering human growth, and thereby changes the way outer life is practiced. Vedic Science-based education thus creates what Maharishi calls the “ideal of government” (MVU, 1991, p. 45), because it supports the goals of government from within by developing the consciousness of individuals and the collective consciousness of society as a whole. For this reason, Maharishi maintains that through experience and research “we have

proved we have the ability to create a new sunshine for all mankind” (*Ibid*, p. 28).

In support of this claim, Long Narith, one of MVU’s students, stated that Vedic Science-based education helped “bestow on us physical, moral, mental and spiritual strength to plunge into the modern world” (Fergusson & Bonshek, 2013, p. 195), Cambodian Ambassador to Australia, Chheang Vun, said “the Royal Government of Cambodia is extremely pleased with the success of Maharishi Vedic University” (*Ibid*, p. vi), and King Norodom Sihanouk concluded: “Maharishi Vedic University is playing an important role in human resource development and in [the] restoration of peace and expansion of prosperity throughout the country” (Hatchard & Cavanaugh, 2009).

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