The Impact of Maharishi Vedic University on Cambodian Economic and Social Indicators from 1980 to 2015

Lee Fergusson

Citation: Fergusson, L. (2016). The impact of Maharishi Vedic University on Cambodian economic and social indicators from 1980 to 2015. *Journal of Maharishi Vedic Research Institute*, *2*, 77-135.

ABSTRACT

This descriptive research paper examines the impact of Vedic Science-based education on the economic and social development of Cambodia between 1980 and 2015. Specifically, the long-term impacts of a large-scale social renewal and healthcare program begun 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.

Prior published research, both in Cambodia and elsewhere throughout the world, has suggested that the applied programs of Vedic Science can play a vital 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 community. For example, research has found that a Vedic Science-based approach to higher education in Cambodia increased non-verbal intelligence, reduced anxiety, depression and the symptoms of post-traumatic stress disorder, and improved the general

health of university students when compared to students at other universities.

It has also been shown that in the 1990s, 70 nations sought to change their systems of government to 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. All three of these countries benefited from intervention of Vedic Science-based education, health and social-welfare programs. This paper explores the economic and social impact of this phenomenon in Cambodia beginning in the early 1990s with the establishment of a "coherence-creating group" of students at Maharishi Vedic University.

INTRODUCTION

After independence and in the post-colonial years between 1953 and the late 1960s, Cambodia enjoyed a period of relative educational, economic and social expansion under the non-aligned stewardship of Prince Norodom Sihanouk. Despite what Gordon and Cyr (1969) describe as a "politics of anxiety" pervading the country during these years, under Sihanouk's (1994) *Sangkum reastr niyum* Cambodia's education spending rose from 15.5% of the total national budget in 1953 to 22.5% in 1959 before settling to 19.2% by 1966 (Bureau regional de l'Unesco, 1965, p. 49; Minson, *et al.*, 1968, p. 109), with the number of schools, colleges and universities expanding rapidly to meet the growing demand for education.

During these years, primary education enrolment grew from 217,000 in 1954 to 1.0 million by 1970, and institutions of higher education were flushed with enrolments: in 1953, only 200 students were enrolled in higher education in Cambodia, but by 1970 this number had swelled to between 5,753 and 10,000, depending on the data source (i.e., the lower figured derived from Tan Kim Huon, 1974, pp. 44-45, based on a Khmer Higher Council of Universities report of 21 April, 1971, and the higher one derived from Vickery, 1984, p. 18). However, unlike Thailand's government which tried to limit educational opportunities during this period to avoid creating an unemployable class of semi-intellectuals, Vickery (1984) points out that Cambodian society could not absorb this

growing number of high school and university graduates. In particular, he noted that many students had chosen to study the arts and humanities but this qualification led only to a career as a "government functionary", whereas fields such as agronomy and technical training in engineering or electronics had only attracted 119 and 573 students respectively in urban universities by 1970 (i.e., somewhere between 0.1% and 0.2% for agronomy and between 5% and 10% for technical training). Vickery's observations are confirmed by Tan Kim Huon (1974, p. 30) who noted that by 1970 only 16% of students in higher education were enrolled in the combined faculties of education, engineering and agriculture.

Compounding this problem was the fact that the expanding commercial and industrial sectors did not keep pace with the burgeoning number of graduating students; Cambodia remained an agrarian society throughout this period, as noted by Duggan (1994, pp. 7-8), and in 1961 Prince Sihanouk was forced to announce that his "administration was full and could not possibly accommodate the 600,000 or so students then in school. He advised them to go back to the farm, but by then it was too late" (Vickery, 1984, p. 19). According to Vickery, Sihanouk's *Sangkum* had "awakened aspirations which could not suddenly be cut off", leading some historians to claim that the frustration and sense of betrayal felt by these students would later manifest as opposition to his government (Williams, 1970, pp. 181-182).

During these years the economy grew, although results were less spectacular than in the education sector. For example, gross national product (GNP) increased by 5% per year between 1959 and 1962 (Ross, 1987), but was lower in the 1960s than in the 1950s as the threat of war loomed and the risk of civil unrest increased throughout the decade; rice production increased from 1.4 million tonnes in 1955 to 2.4 million tonnes by 1960, but remained at that level throughout the 1960s. Moreover, to a large degree the Cambodian economy during this period was significantly reliant on foreign aid, with industrial and infrastructure development projects attracting, for example, $22.4 million from China in 1955 and $350 million from the U.S. between 1955 and 1962, with most of it going to education, healthcare and agricultural development.

This period of relative prosperity and opportunity came to an abrupt end in the late 1960s and early 1970s, first with expanded regional military operations within the country, aerial attack from carpet-bombing B-52s under the code name "Operation Menu" (the U.S. military thought this

name funny because they would have Cambodia "for breakfast"), a U.S.-backed military coup in 1970 (Kosut, 1971), and then victory by the Khmer Rouge (KR) over the U.S.-sponsored Lon Nol government in 1975 (Shawcross, 1979). The KRs murderous rule ended with the "liberation" of Cambodia by 100,000 Vietnamese forces in late 1978 and early 1979. This paper concerns itself with the period immediately following this event by examining the educational, economic and social dimensions of the post-liberation period from 1980 to the present day.

One of the unfortunate consequences of twentieth-century politics has been the need to rebuild the economies and infrastructures of many countries after war; Belgium and France after World War I, England, Germany, Japan and Russia after World War II, South Korea after the Korean War, and Vietnam after the Vietnam War being just a few obvious examples. In this context, the developmental arc of Cambodia's economic and social reconstruction is not especially unique, given the all-too-typical occurrences of loss of life and property, collective trauma and mass transmigrations, destruction of infrastructure and social services, and collapse of law and order caused by war (Institute for International Cooperation, 2002, p. 5).

However, Cambodia's trajectory is uncommon in that its development was coming off an extremely low base because in the 1980s and early 1990s, 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 under the KR, the country was among the poorest in the world. As a result, the Cambodian government sought ways in the late 1980s to accelerate its educational, social and economic development through all possible available means, including securing financial aid from, and harnessing the intellectual capital of, foreign countries.

In this context, the Cambodian government entered into an educational alliance with Maharishi European Research University (MERU) in the Netherlands, an institute of higher learning specializing in Vedic Science-based education and the healthcare programs of Maharishi Mahesh Yogi, an eminent teacher of Vedic knowledge throughout the world from the 1950s. Maharishi promoted the experience and knowledge of the Veda and Vedic literature as a means to realizing greater health and prosperity for individuals and nations and to creating a more balanced,

progressive and peaceful world. His national and international initiatives included the implementation of educational and healthcare programs (Maharishi, 1977a; Maharishi Vedic University, 1985), corporate development programs to improve working life and the performance of companies (Kory, 1976; Swanson & Oates, 1989), rehabilitation programs to reduce crime, drug abuse, violence and recidivism (Ellis, 1979; King, 1987a; Maharishi, 1990), governmental and administrative programs, including poverty removal initiatives, to promote social and national balance and economic well-being for individuals and nations (King, 1987b; Maharishi, 1993, 1996a), and programs to create world peace and prosperity in the family of nations (Maharishi, 1987; Maharishi Vedic University, 1991). Maharishi even influenced the conversation surrounding some of the world's great religions and cultural traditions (Smith, 1980).

Maharishi and his worldwide programs since the 1950s have as a consequence been recognized by governments and leaders around the world, including by the Office of the Mayor of Washington, D.C. and the Honorable Walter E. Fauntroy on the Congressional Record of the United States Congress (Maharishi Vedic University, 1985), the Government of Madhya Pradesh, India (Maharishi, 1996b), and the Government of Mozambique, whose then President Joaquim Chissano stated that the introduction of Maharishi's programs resulted "in political peace and balance in nature in my country" (Calder, 2010). [For a summary of the scientific research on these and other outcomes, see Orme-Johnson, 1995 and Dillbeck, 2011].

In 1991, Maharishi turned his attention to Cambodia, then the poorest country in the world. 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 together in groups, two related technologies derived from the Vedic tradition for developing the intelligence, creativity and energy of individuals and society, 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—depends 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 (Maharishi Vedic University, 1991, p. 127).

Some of the goals of his global program to "create Heaven on Earth", which Maharishi organized into two main categories, were listed as: glorification of inner life, including the development of "higher states of consciousness", blossoming of noble qualities, as well as "support of nature from within" by which he referred to "developing inner happiness, peace and fulfilling progress"; and glorification of outer life, including building ideal villages, towns and cities, developing agriculture and forestry, creating a global green revolution, promoting global rural development, eradicating global poverty through "economic self-sufficiency", achieving perfect health, and creating balance and harmony in nature.

At the time, Maharishi stated "now that scientific research has repeatedly proved that life can be lived in full accord with Natural Law through the practice of my Transcendental Meditation [program], that positivity and harmony can be created and negative trends can be completely eliminated throughout society, 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 now in this generation, so that perfection is a reality of the daily life of everyone for all generations to come" (Maharishi Vedic University, 1991, p. 1).

The purpose of this research paper is to examine the outcome of 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 national poverty; and 3) does Cambodia's progress during this period compare favourably to the economic and social development of its nearest neighbours, Vietnam, Lao PDR and Thailand?

The methodology employed by this research does not attempt to establish a statistically significant causal relationship between the

introduction of Vedic Science-based education and changes in economic and social parameters thereafter, but rather attempts to document the developmental arc of Cambodia from 1980 to 2015 using available descriptive and quantitative data using the Social Impact Assessment (SIA) model to investigate whether the country was on a more sustainable economic and social trajectory during the period between 1993 and 2008 when Vedic Science-based education was applied, and when comparing Cambodia's development to other countries in its the region. In accordance with standard practice guidelines (e.g., Department State Development, Infrastructure and Planning, 2013), the SIA used in this study attempted to cover the entire lifecycle of the period using best available information for Cambodia and its nearest neighbours, and where possible establish baseline data.

MAHARISHI VEDIC SCIENCE

It is not within the scope of this paper to document in detail the principles and practice of Vedic Science, and indeed Maharishi and other researchers and academics have done so more thoroughly elsewhere (Chandler, 1989; Fergusson & Bonshek, 2015, pp. 327-370; Hagelin, 1989; Maharishi Vedic University, 1985; Nader, 2000). However, a summary of the basic tenets of Vedic Science is relevant in the context of orienting the reader to a general understanding of Vedic Science-based education.

In the 1960s and 1970s, Maharishi recognized that despite the discovery of fundamental laws of nature and the great technological advances afforded by modern science, the creation of ideal and balanced societies had not been achieved. He noted that modern education lacked the ability to apply the knowledge of the laws of nature as discovered by science and lacked 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 [or the full conscious capacity] 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 pedagogical and educational systems of the world (Maharishi Mahesh

Yogi, 1974). SCI, by "opening one's awareness [one's consciousness] 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).

Maharishi went on in the 1980s to locate the source of SCI in the ancient Vedic tradition of knowledge, which Maharishi called *Vedic Science*, a science that provides a systematic and comprehensive understanding of the nature and application of consciousness along with the technologies for enlivening its potential for bettering life. Maharishi 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 practical or experiential aspects of both SCI and ancient Vedic Science, particularly as described in the four primary Vedas—Rik 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 human consciousness, the field of pure creative intelligence and the home of all the laws of nature (sometimes referred to 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 (Alexander, *et al.*, 1986; Gelderloos & van den Berg, 1989). It can therefore be said the practice of Vedic Science by enough people in a society harnesses and enlivens the laws of nature, putting these laws spontaneously to work for social benefit. [For an analysis of how these

principles apply to individual life, society, government and politics as described in primary texts of Vedic literature, see Wells and Boothby (1995) on the *Bhagavad-Gita* and Sands (1998) on the *Valmiki Ramayana*].

VEDIC SCIENCE-BASED EDUCATION IN CAMBODIA

A Vedic Science-based approach to education is founded on this ancient science of complete knowledge and utilizes a number of principles for imparting and learning knowledge. 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" (Maharishi Vedic University, 1985). At its most basic level, this principle is applied in a student's practice of the Transcendental Meditation technique, 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 that gaining total knowledge through studying the parts of a discipline will be impossible and education will always remain fragmented and unsatisfying.

Research suggests that the 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 practice of 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 is 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 narrow and specialized parts of knowledge, a process which exposes her consciousness to the foundational elements of a discipline before focusing on

individualized and specialized values of information, thereby developing a comprehension of the whole tree of knowledge before focusing on individual branches of the tree. Maharishi describes this level of education as the "fountainhead of all streams of knowledge" (Maharishi Vedic University, 1991, p. 15).

This "whole then part" principle can be applied at every level of the learning process. For example, at the *curriculum* or program level it means studying the overall range and content of a discipline (e.g., civil engineering) prior to studying specific subjects within the discipline (e.g., design systems); at the *course* or subject level it means studying the overall range and content of the subject (e.g., design systems) prior to studying specific elements of the subject (e.g., design components); and at the *lesson* level it means studying the main point of the lesson on design components prior to studying the elements of the specific topics being taught on design components (e.g., the components and processes that conform to specification, and the recommendations which follow from components testing). From a more holistic point of view using the same example, students would study foundational principles of engineering before being exposed to minute technical details of civil engineering, thereby building up a conceptual framework of understanding before delving into the specific items of knowledge associated with the discipline.

Alternating study of the whole with study of the parts of knowledge in this way also swings a student's awareness from broad to specific and back to broad throughout the day, week or month, helping her integrate the knowledge she learns and helping her establish knowledge at the deepest levels of comprehension. In Vedic Science, these swings of awareness between generality and specificity are said to help develop the full range of a student's consciousness, from expanded to most sharply focused; abilities of both analysis and synthesis are thereby strengthened. Research on the relationship of field independence and Transcendental Meditation are particularly relevant in this regard (e.g., Gelderloos, *et al.*, 1987; Jedrczak, 1984).

According to Maharishi, the ancient Vedic records explain why this approach to education is so vital. He points, by way of example, to the phrase *Brahmā bhavati sārathih* (Ṛik 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" (Maharishi Vedic University, 1991, p. 9). Therefore, harnessing the field of

pure consciousness, the field of pure creative intelligence, 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'" (Maharishi Vedic University, 1991, 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; this approach to university education has been described as resulting in "all knowledge in one brain" rather than the more commonly advanced purpose of a university as "all knowledge in one campus".

Unlike most contemporary approaches, a Vedic Science-based education therefore does not ignore the concept of "wholeness" in pedagogical experience, the aspect of the *total* man or woman, which necessarily includes full development of mind, body, behaviour and society. Indeed, the development of wholeness, both on the level of the student's consciousness as well as within the disciplines themselves, is viewed by Maharishi as the *raison d'être* of education. Educators have thus summarized the elements of a Vedic Science-based education as being fundamentally four in number: 1) traditional knowledge combined with current knowledge of science, arts and humanities; 2) knowledge and direct experience of pure consciousness and its expressions provided by the Transcendental Meditation and TM-Sidhi program; 3) intellectual understanding of the theoretical principles of Vedic Science, including the internal dynamics of consciousness and its sequential expression into all levels of subjective and objective life; and 4) Vedic Science-based teaching techniques and curriculum design elements (Dillbeck & Dillbeck, 1987; Jones, 1989).

In 1990, Cambodia was the poorest of 42 of the world's poorest countries, and Maharishi insisted that a program of education, health care, agricultural reform and food self-sufficiency, and cooperative development be launched in the country (Maharishi Vedic University, 1991). He noted that in Cambodia, political and social uncertainties existed and that "political clouds veering over the country" could bring delays to these goals, and therefore efforts should immediately focus on bringing a "new attitude to achieve the goal"; all the "essential features of life [should] continue to evolve," Maharishi argued, "irrespective of changes in the government and chaos during change" (p. 93). "Our thinking", he said, "is

that the existing political uncertainties in any country will not be taken to be barriers….We are heading towards the day when Cambodia will be known as Heaven on Earth, and with this example all the developing countries and all the developed countries will begin to follow the example of Cambodia" (p. 95).

Maharishi Vedic University in Holland noted that Cambodia then had a population of 7.4 million people, but at least 6.0 million of them were poor; the per capita income at the time was reported to be just US$50 per year (compared to $100 in Laos and $130 in Vietnam). Cambodia also had 8.0 million hectares of cultivable land, but only 1.4 million of them were actually being farmed (Maharishi Vedic University, 1991, p. 98). Maharishi therefore invited the government of Cambodia to start a program of educational and economic recovery by implementing his educational and healthcare 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" (Maharishi Vedic University, 1991, p. 92). To this end, in 1991 Samdech Tep Vong, then Supreme Patriach of Cambodia, visited Maharishi to discuss creating lasting peace and prosperity in the country (Australian Aid for Cambodia Fund, 1992, p. 2). [Tep Vong, who is widely recognized as the first person to rejoin the monkhood in 1979 after the fall of the KR, was subsequently elevated to *Samdech Preah Agga Mahā Sangharājādhipati* or Great Supreme Patriarch in 2006; he is the first monk in over 150 years of Cambodian history to receive this title.]

As a sign of goodwill, and given that Cambodia only had a handful of qualified doctors, it was also during this time that Maharishi deputed four Ayur-Vedic doctors from India to immediately begin treating patients in Phnom Penh, a practice that would see an outpouring of need rise to 5,000 patients being treated each day for basic as well as advanced diseases, with a total of 300,000 people treated in a two-month period by these physicians (Australian Aid for Cambodia Fund, 1992, p. 2). Educators and business leaders from Thailand contributed educational expertise and financial support during this phase of implementation.

Maharishi had, in fact, had a long-standing and deeply felt concern for the plight of Cambodia. In November 1978 he had launched an initiative to

bring coherence and peace to Cambodia during the KR reign as part of his global World Peace Project implemented in many countries around the world (Orme-Johnson & Dillbeck, 1987). As part of that initiative, about 200 experts in the Transcendental Meditation and TM-Sidhi program went to Thailand, including the area close to its eastern border with Cambodia, to bring an influence of coherence to collective consciousness in the region, an influence of balance and peace through meditation. Within one to two months of the group assembling in three locations in Thailand, 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 would suggest that the implementation of Vedic Science-based programs impacted the future of Cambodian society.

The principles and mechanics of this social phenomenon (i.e., how a group of meditation practitioners contribute to the changes in fortune of a country by alleviating political and social tension) have been systematically discussed elsewhere by Davies and Alexander (2005) and Orme-Johnson and Dillbeck (1987), and these principles and mechanics are fundamental to an understanding of what prompted the research questions under consideration in the present study. This "action-at-a-distance" phenomenon of groups of meditating experts affecting economic and social outcomes has also 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.

In 1983, focusing on the poorest countries of the world, Maharishi also initiated a large-scale cultural exchange program with Vietnam (originally slated for Cambodia, but the borders were still closed to foreigners at the time) by sending a group of experts in the Transcendental Meditation and TM-Sidhi program to create coherence in the collective consciousness of South-East Asia (Australian Aid for Cambodia Fund, 2000, p. 5). This program consisted of the largest group of Westerners allowed to visit Vietnam after the end of the Vietnam War; the group practiced their peace-creating techniques in a location close to Vietnam's border with Cambodia (coincidentally just a few kilometres from the eventual site chosen for Maharishi Vedic University by the Cambodian government in 1991).

As a result of Maharishi's insistence that an institution of higher learning be established in Cambodia, a group of Australian well-wishers, medical doctors and educators established a not-for-profit, non-governmental organization called the Australian Aid for Cambodia Fund (AACF) in Melbourne in 1991. AACF (1991) began a threefold initiative to raise funds locally to support the new university (Soltau, 1994), to cultivate self-sufficiency in health care and agriculture, and to send qualified individuals to Cambodia to begin working with MoEYS to locate land, design and build the new Maharishi Vedic University (MVU) and associated health education center, recruit and enroll students, and begin classes as soon as possible; AACF subsequently became a signatory to the Australian Council for Overseas Aid's *Code of Conduct* (Australian Aid for Cambodia Fund, 2000, p. 7).

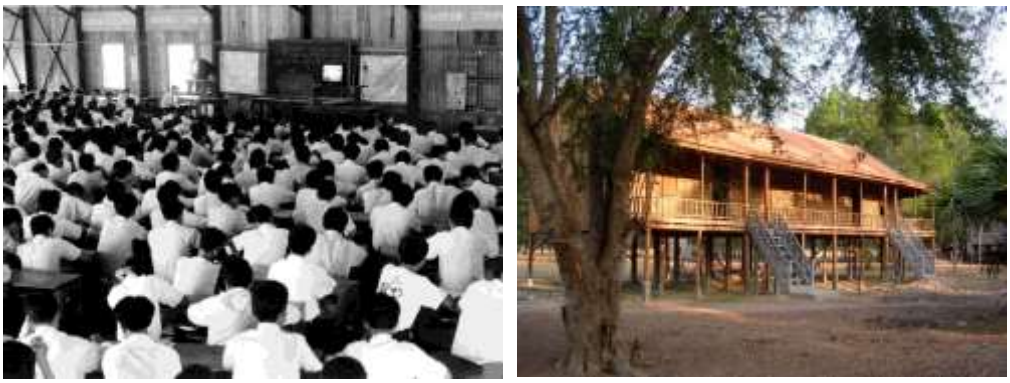


Figure 1. First student cohort studying Vedic Science in the assembly hall, January 1993 (left); first faculty housing in traditional Khmer style (right).

By November 1991, AACF and MoEYS had identified 70 hectares of suitable land 140 kilometers east of Phnom Penh in Kamchey Meas, Prey Veng Province which would be suitable for the site of MVU and its associated health education center. The land in Kamchey Meas (plus an additional 80 hectares for later agricultural development) was subsequently donated to MVU by His Excellency (now the late) Samdech Chea Sim, then President of the National Assembly (Australian Aid for Cambodia Fund, 1996, p. 1).

Figure 2. Maharishi Vedic University healthcare centre in 1993 (left); Ayurvedic doctor consulting with local patient (right).

By late 1992, the buildings and other basic infrastructure for Maharishi Vedic University (*Sakal Vichealay Vedic Maharishi* in Khmer) and the health education center had been constructed with the support of AACF (Fergusson & Bonshek, 2013). The site for MVU included the installation of roads, wells, fencing, power generation and a rudimentary communications system, as well as an assembly hall to seat 600 students (with steel members imported from Vietnam due to a complete absence of steel in Cambodia at that time), four classrooms for 40 students (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 recreational areas (these were later expanded to house up to 1,000 on-campus students, along with greatly improved sports, recreational and library facilities, see Figures 1-3).

In October 1992, MoEYS announced publicly in the national print media and on television that MVU would begin classes on January 1st, 1993, and issued application forms to potential students; with more than 5,000 applicants in November 1993, the Ministry selected 550 high school graduates (with an additional 150 planned for enrolment in 1994, bringing the planned total to 700 students). Therefore, beginning in 1993 with the cooperation of MoEYS, 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 the entire country. 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). [The curriculum and name of MVU was changed in 2008 to Chea Sim University (CSU) by MoEYS and the coherence-creating programs of Vedic Science ended at that time (see Figure 4). For a more complete description of the lifecycle of MVU and its evolution into CSU, see Fergusson & Bonshek, 2013.]

Figure 3. Students practicing the Transcendental Meditation and TM-Sidhi program in a group at MVU in 2002 (left); learning centre and library at MVU in 2002 (right).

Among the features of importance for MVU identified by MoEYS and articulated by His Excellency Dr Ung Huot, former Minister of Education and then first Prime Minister in the Royal Government of Cambodia, were: a) offering degree programs, which developed technical skills and contemporary understanding in business and management (including leadership, strategic planning and public administration), Vedic agriculture (specializing in self-sustainable, ecologically-sensitive farming and management practices), and preventive medicine (with a focus on Maharishi Ayur-Ved, a traditional, cost-effective, prevention-oriented therapeutic approach with roots in Cambodian culture); b) placing high school graduates in rural higher education; c) developing cultural and international understanding through a variety of courses in Khmer culture which explore links to ancient Vedic culture (for example, the history of Khmer civilization and its relation to Sanskrit); d) incorporating health-related training strategies, such as the Transcendental Meditation and TM-

Sidhi program, into the curriculum in order to promote the psycho-physiological health of students and to reduce stress; e) helping decentralize higher education, thereby making it more widely available to students from provinces other than Phnom Penh; and f) conducting research into these new strategies and programs (Fergusson & Bonshek, 2013, pp. v-vi).

Research conducted during 1993 suggested Vedic Science-based education at MVU had a salutary effect on student intelligence, general health, anxiety and other characteristics of post-traumatic stress disorder (PTSD). For example, Fergusson *et al.* (1996a) found the curriculum contributed to an increase in non-verbal intelligence of MVU students when compared to other Cambodian university students, and Fergusson *et al.* (1995) reported declines in anxiety and depression, improvements in mental and physical health, and increased sociability of MVU students compared to students at two other universities in Phnom Penh. 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).

The last of these findings was just one among many other symptoms of PTSD common to university students during that time, a phenomenon which severely impacted learning and educational performance. These findings (which were based on research likely to be the first conducted on higher education in Cambodia since the KR period) suggested a Vedic Science-based curriculum lays the personal foundations of peace and orderliness which subsequently contribute to the broader social and economic benefits described in this research paper, and support Maharishi's claim that his programs result in the "glorification of inner life".

However, as noted elsewhere (Fergusson & Le Masson, 1997) the task of the research historian in Cambodia is not straightforward and has suffered a number of fundamental setbacks because relevant data are either missing or unreliable. Due to vast quantities of historical material, including books, journals and government records, being destroyed during earlier periods of war and social upheaval and then eventually totally obliterated by the KR, a general paucity of data hampers research. While international scholars debate the actual percentage of material that has survived (e.g., Smith, 1995; Vickery, 1984), it is clear that to whatever

degree Cambodia's heritage was intact in the late 1960s an enormous wealth of knowledge has been lost as a result of political turmoil, wanton destruction and neglect.

Figure 4. Adminstration building in the Kmer style at Chea Sim University in 2013 (left); main adminstration building and classrooms at Chea Sim University in 2013 (right).

Among the more egregious examples of missing data can be seen in reports by the World Bank (1990) which provide statistics on 176 countries throughout the world from 1965 through to 1990, including data on economic growth, GDP, inflation, imports, exports, foreign investment and debt. However, the entries for Cambodia (called Democratic Kampuchea in World Bank reports) prior to 1990 are almost entirely blank; even basic economic data and health data such as the percentage of population living below the poverty line are often completely missing for the years between 1980 and the early 2000s (e.g., United Nations Development Programme, 2003).

Moreover, unreliable historical documents about Cambodia fall into three broad categories. Some data are incorrect. For example, Le Thac Can (1991) credits 1954 as the beginning of independence when November 9th, 1953 is the official date (Kosut, 1971; Vickery, 1984). Other data have been exaggerated. For example, King Sihanouk (1994, p. 1) asserts that between 1955 and 1969 his government spent more on education than on defence, yet his own Office national de planification de l'éducation maintained that while a significant portion of the national budget was spent on education

during this time, the figure was nevertheless lower than defense spending (Bureau régional de I'Unesco, 1965, p. 47). Finally, some facts have been blurred or rendered indistinct. For example, Duggan (1994, p. 8) states the University of Phnom Penh (UPP) opened in 1963, Le Thac Can (1991, p. 175) asserts that it opened in 1960 as the Royal Khmer University (RKU), and Minson, *et al.* (1968) maintains UPP actually opened in 1956 as the National Institute of Legal and Economic Studies (NILES). Thus, to say that UPP opened in 1963 is technically correct, but it blurs the point because UPP, RKU and NILES are essentially the same institution.

For these reasons, statistical, historical and textual data on Cambodia are rarely consistent and often contradictory; consensual conclusions or oft-repeated recollections frequently replace historical fact in documenting the country. In addition to the extreme policies of the KR, to whom a significant portion of the blame for the destruction of data may be attributed, poor documentation methods, the imposition of foreign standards and practices, the use at various times after 1953 of at least five official or semi-official languages (Khmer, French, Russian, Vietnamese and English), and convoluted statements throughout the literature such as "my comments would be comments to Kiernan's comments to Vickery's comments to Kiernan's article" (Bounroeun Thach, 1991) compound the historian's task. Some statistics are therefore advanced cautiously in this paper, with all monetary values reported in U.S. dollars.

ECONOMIC AND SOCIAL DEVELOPMENT

Data on national economic trends are by necessity averaged and globalized; these data do not reflect the status of any one individual or any one group of individuals within a country, however they do represent the stories of individual lives: while improving or declining economic trends may reflect global phenomena they also speak for the daily experience of millions of human beings. If the lives of individuals are improved through the implementation of social welfare programs, such as those described in this paper related to Vedic Science, these changes are necessarily reflected in national economic and social data.

Thus, when Maharishi declares his Vedic Science-based programs result in the "glorification of inner life", as has been observed in the lives of Cambodian university students, it is also reasonable of him to suggest this

phenomenon will contribute to the "glorification of outer life". The following economic development data verify this claim.

By any standard, according to the World Bank (2014, p. xiv), the growth of Cambodia's economy since 1980 can be described as "remarkable", with a surge in growth being particularly pronounced when students practiced the Transcendental Meditation and TM-Sidhi program together in a group at MVU between 1993 and 2008. Whereas Cambodia was the poorest country of the 42 poorest countries in the world in 1990 based on income levels (Maharishi Vedic University, 1991, pp. 98-101) and was the poorest of all 152 countries (i.e., at the 100th percentile), according to the Economic Institute of Cambodia (2008), after implementation of Vedic Science-based education Cambodia's gross domestic product (i.e., GDP, the total annual value of all goods and services produced domestically) growth rates averaged 9.6% per annum between 2004 and 2009, and the World Bank (2014, p. xiii-xiv) reported that Cambodia's industrial sector GDP growth rates equalled as much as 30% per year after the late 1990s.

Similarly, per capita GDP (i.e., total annual GDP divided by the population) grew 54.5% between 2004 and 2011, placing it 15th among 174 countries. As a consequence, by 2010 Cambodia was ranked 63rd out of 152 countries on a standardized poverty scale (i.e., at the 59th percentile). The World Bank's (2014) expression for Cambodia "where have all the poor gone?" sums up poverty removal in the country since the early 1990s.

These observations are reinforced by the fact that of the 47 poorest countries in the world in 2002 (calibrated against 1990 baseline data) Cambodia was only one of 16 countries to achieve 90% or more success on a range of 2015 targets set in 2000 for poverty reduction. Cambodia was also one of just 17 countries to achieve 90% or more of the target for reducing the percentage of its population who are undernourished, one of 16 to achieve target rates for enrolments in primary education, one of 21 to achieve target infant mortality rates, one of 13 to achieve maternal mortality rates, and one of 20 to achieve improvements in access clean drinking water (United Nations Conference on Trade and Development, 2014, p. 33).

The United Nations Development Fund for Women (UNIFEM) and other international aid agencies report the Cambodian labour force increased by 23% between 1997 and 2001 (UNIFEM *et al.*, 2004, p. 34),

growing from 4.7 million people to 5.8 million over four years, with participation rates for both men and women higher than neighbouring Thailand; Cambodia also currently has the highest female participation rate of all Asian nations at 82%, a decline of about 10% of unpaid women in the workforce between 1998 and 2001, and an increase of women in paid employment from 26% to 43% during the same period (UNIFEM *et al.*, 2004, pp. 36-41).

Gross Domestic Product

Table 1 presents Cambodia's GDP, annual percent change in GDP, per capita GDP, GDP for Asia's least developed countries, and Cambodia's GDP as a percentage of Asia's least developed countries' GDP between 1974 and 2014. Cambodia's GDP generally accelerated in the years following the establishment of MVU, achieving its highest annual average growth rate between 1994 and 2006. For example, in 1980 Cambodia's GDP equalled USD$769 million (up from $558 million immediately prior to the KR period in 1974 when the last GDP records were kept), while the average for least developed countries in Asia was $31,563 million, meaning Cambodia's GDP was 2.5% of the average; in 1990, GDP equalled $1,698 million, a 120% increase over 1980, with the average for least developed countries equalling $47,575 million and Cambodia's GDP equalling 3.5% of that average. By 2000, Cambodia's GDP was $3,667 million, a 115% increase over 1990 and 45% over 1993, with the average for least developed countries equalling $78,643 million and Cambodia's GDP equalling 4.5% of average.

However, within five years by 2005, Cambodia's GDP was $6,293 million, a 70% increase over 2000, with the average for least developed countries equalling $113,309 million and Cambodia's GDP equalling 6.3% of average. Therefore, between the years 1990 and 2005, Cambodia's GDP as a proportion of Asia's least developed nations increased by 152%. Five years later, Cambodia's 2010 GDP equalled $11,242 million, a 79% increase over 2005, with the average GDP for least developed countries equalling $222,892 million and Cambodia's GDP equalling 5.0% of average; by 2014, Cambodia's GDP was $16,700 million, which represented a 14% increase over 2000, while the average for least developed countries was $253,213 million with Cambodia's GDP representing 5.0% of average.

While Cambodian GDP levels steadily increased throughout the period, with the highest annual rates of change being 1994, 2000, 2004 and 2006, their relation to the averages for developing countries in Asian was also higher during the 1990s and early- to mid-2000s when compared to the period before or after MVU (i.e., 4.5% versus 3.5% and 6.3% versus 5.0%).

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

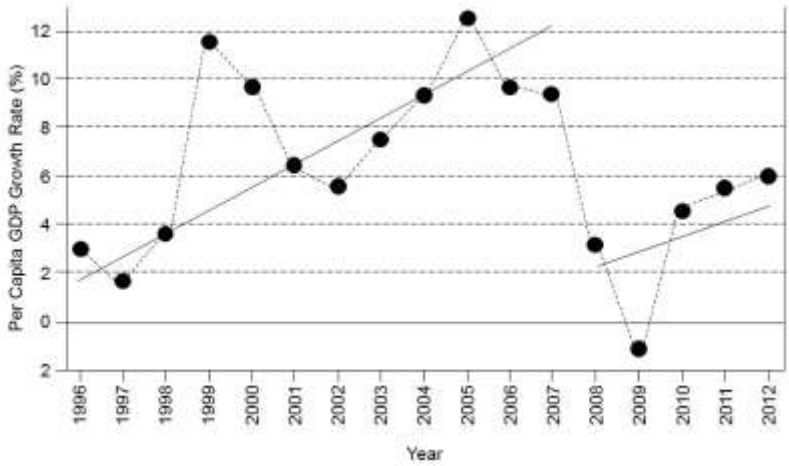
Year	GDP (in billions $)	Annual Change in GDP (%)	Per Capita GDP ($)	Average GDP for Asian LDCs (in billions $)	Cambodia's GDP as % of the Average GDP for Asian LDCs
1974	0.56†	–	77	–	–
1980	0.77†	–	–	31.6†	2.5
1990	1.7†	–	–	47.5†	3.5
1992	2.5	–	–	–	–
1994	2.8	9.0	269	–	–
1996	3.5	5.4	318	–	–
1998	3.1	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, 2015a, except † United Nations Conference on Trade and Development, 2013, pp. 418-422.

Cambodia's annual per capita GDP growth rates between 1996 and 2012 (using constant 2000 U.S. dollars) with trend lines for 1996-2007 and 2008-2012 are presented in Figure 5. The impact of the global financial crisis (GFC) can be clearly seen between 2007 and 2009, but Cambodia's

economy recovered by 2010 showing similar, albeit lower, trend growth. These data indicate the growth of the economy as a function of population starting three years after the establishment of MVU in 1993 (the per capita GDP growth rate remained the same at about 6.0-7.0% from 2012-2015, however, actual per capita GDP increased steadily from $782 in 2010, $879 in 2011, $947 in 2012, $1,090 in 2013 and $1,090 in 2014, according to the World Bank, 2015a).

The World Bank (2015a) reported that Cambodia's annual 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.



Source: World Bank, 2014, p. xiv.

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

Gross National Income

The sum of Cambodia's GDP plus net income received from overseas is the gross national income (GNI). GNI is defined as the sum of value added by all producers who are residents in Cambodia, plus any product taxes

(minus subsidies) not included in output, plus income received from abroad, such as employee compensation and property income; GNI therefore measures income received by Cambodia both domestically and from overseas. In this respect, GNI is similar to gross national product (GNP), which measures Cambodia's output from its citizens and companies, regardless of whether they are located within its boundaries or overseas. Table 2 presents the annual GNI, annual percent change in GNI, per capita GNI, growth rates of GNI and annual change in consumer price index (CPI) for Cambodia between 1974 and 2014.

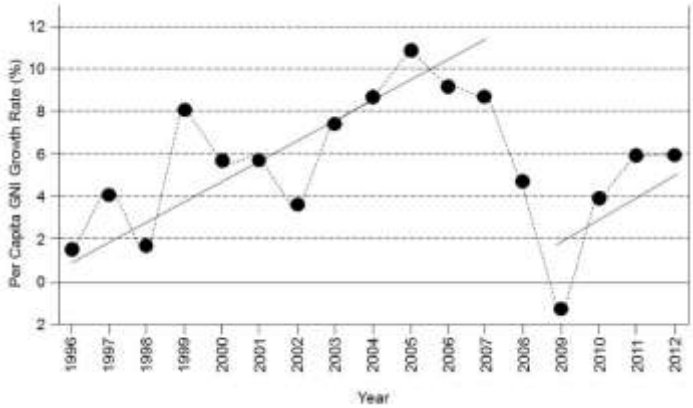
Table 2. Cambodia's GNI, annual change in GNI, per capita GNI, annual change in per capita GNI, and annual change in CPI between 1974 and 2014.

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, 2015a (note, no records kept between 1974 and 1995 and per capita GNI based on constant 2005 dollars), except † International Monetary Fund, 2015.

GNI per capita can also be based on purchasing power parity (PPP), therefore PPP GNI represents gross national income converted to international dollars using purchasing power parity rates. The World Bank (2015a) reported that the PPP GNI (based on the 2011 international dollar) for Cambodia in 1995 was $790 and had risen to $2,250 by 2008, a 190% increase, which in Thailand grew from $6,590 in 1995 to $11,270 by 2008 (a 70% increase), in Lao PDR from $1,390 in 1995 to $3,240 by 2008 (a 130% increase), and in Vietnam from $1,470 in 1995 to $3,810 by 2008 (a 160% increase).

The growth in PPP GNI was therefore significantly higher in Cambodia than in any of its regional neighbours. According to the World Bank (2014), Cambodian infrastructure spending also increased significantly from $83.7 million in 1994 to $166 million in 1996 (a 100% increase), dropped to $156.4 million in 1998 (5% decline), and rose again to $255.1 million in 2000 (a 65% increase). 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 1996 and 2007 and between 2009 and 2012 are presented in Figure 6.

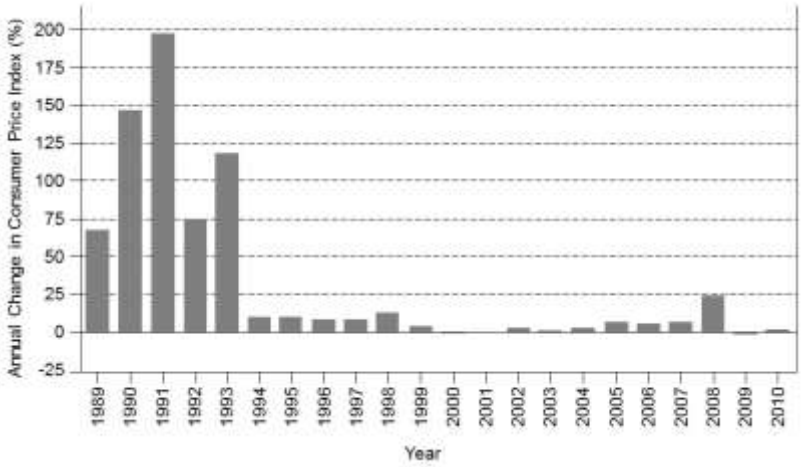


Source: World Bank, 2015a.

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

Inflation

Consumer price index (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 using CPI. These data indicate inflation rates decreased sharply in 1994, dropping from 114.3% in the year prior to the establishment of MVU to 10.4% immediately after. Inflation rates remained at or close to zero through to 2008 when they increased marginally to 24.9% before settling down again to under 4%. This finding suggests not only did the Cambodian economy improve significantly between 1994 and 2008, but consumers' ability to pay for goods and services also improved considerably during the intervention period.



Source: International Monetary Fund, 2015, p. 179.

Figure 7. Cambodia annual percent change in consumer price index between 1990 and 2001.

Exports

Table 3 presents data for Cambodian exports from 1980 to 2010. The United Nations Conference on Trade and Development (2013, p. 6) reported that Cambodia's exports rose from USD$16.0 million in 1980 to

$86 million in 1990 (a 435% increase over ten years), to $1,389 million in 2000 (a 1,500% increase over ten years), to $3,092 million in 2005 (a 120% increase over five years), and to an estimated $5,143 million in 2010 (an increase of 65% over five years). 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 than MVU operated, exports rose by an average of 150% per year; and in the next five years, exports rose by 120% or an average 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, 2003, p. 230).

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

Year	Cambodian Exports (in million $) and change to previous reporting period (%)	Average Exports for Asian Developing Countries (in million $)	Cambodian Exports as Percentage of Total Exports for Asian LDCs (%)	Cambodian Exports as Share of Total 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: United Nations Conference on Trade and Development, 2013.

Similarly, Cambodia's exports to average exports for all least developed Asian countries for the same period indicate that Cambodia out-performed many of its regional neighbours (United Nations Conference on Trade and Development, 2013, p. 20). As reported above, in 1980 Cambodia exported goods valued at $16 million when the Asian average for developing countries was $2,129 million; Cambodia's exports therefore represented just 0.8% of the average. In 1990, Cambodia exported $86 million when the

Asian average was $3,334 million; Cambodia's exports therefore represented 2.5% of the average, a ranking gain of 1.7% and a percentage gain of 210% or 21% per year. In 2000, Cambodia exported $1,389 million when the Asian average was $14,852 million; Cambodia's exports therefore represented 9% of the average, for a ranking gain of 6.5% but a percentage gain of 260% or 26% per year.

In 2005, Cambodia exported $3,092 million when the Asian average was $23,868; Cambodia's exports therefore represented 13% of the average, another ranking gain of 4%. In 2010, Cambodia exported $5,143 million when the Asian average was $43,031 million; and thus Cambodia's exports represented 12% of the Asian average, a decline of 1% of the average. Therefore, based on this data, it can be concluded that Cambodia's greatest export gains as a percentage of average developing country exports were between 1990 and 2005. From this data it can also be seen that during the years between 1990 and 2005, the value of Cambodia's exports increased more significantly as a percentage of the Asian average for developing countries than 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 (United Nations Conference on Trade and Development, 2013, p. 14). Cambodia's percentage contribution to (or share of) 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.

When comparing Cambodia's export contribution to total regional exports with other least developed countries in the region for the same period, the United Nations Conference on Trade and Development (2013, pp. 14 and 22) reports the following: in 1980, Cambodia's exports were 0.001% of total Asian exports and the average contribution of all developing countries to the Asia region was 0.1%, thus Cambodia was contributing 0.01% of the developing country average; in 1990, Cambodia's exports were 0.002% of total exports and the average contribution of developing countries was 0.1%, thus Cambodia was contributing 0.02% of the developing country average; in 1995, Cambodia's exports were 0.17% of total Asian exports and the average

contribution of developing countries was 0.16%, thus Cambodia was contributing 6% above the developing country average; in 2000, Cambodia's exports were 0.22% of total Asian exports and the average contribution of developing countries was 0.23%, thus Cambodia was contributing 5% below the regional average contribution; in 2005, Cambodia's exports were 0.29% of total Asian exports and the average contribution of developing countries was 0.23%, thus Cambodia was contributing 26% above the average contribution); and finally by 2010, Cambodia's exports were 0.34% of total Asian exports and the average contribution of developing countries was 0.29%, thus Cambodia was 5% above the average contribution of all developing countries in Asia. The value of Cambodia's export as a percentage of the Asian market was therefore highest between 2000 and 2005 and was higher than previous levels after 1995.

When considering the total number of products exported by developing countries in Asia during this period, the same general trend can be observed (United Nations Conference on Trade and Development, 2013, pp. 218-224): in 2005 (the earliest year for which data is available), Cambodia exported 98 different products, but by 2012 this number had grown to 138 (a 40% increase in product diversification). When compared to the least developed countries in Asia, which on average exported 247 products in 2005 and 249 in 2012, Cambodia was 61% less diversified in product exportation in 2005, but this lack of diversification had declined to just 45% by 2012 while the diversification of product exportation in other less developed countries in Asia remained the same.

Cambodia did not generate any revenue from the export of "high technology" before 2000. In that year it generated $1.0 million in high-tech exports, but this figure grew to $3.2 million by 2008, a 220% increase. During the same period, Lao PDR did not generate any revenue from the export of high-tech goods or services, Thailand's high-tech exports grew from $17.3 billion in 2000 to $22.5 billion in 2008, a 31% increase, and Vietnam's high-tech exports grew from $683 million in 2000 to $873 million in 2008, a 28% increase (World Bank, 2015b).

While Cambodia was clearly coming off a low base and therefore comparison with Thailand and Vietnam may be unwarranted, it is worth nothing that during the intervention period Cambodia's other less developed neighbour did not reach a point in its economic development cycle where it exported any high-tech products or services at all.

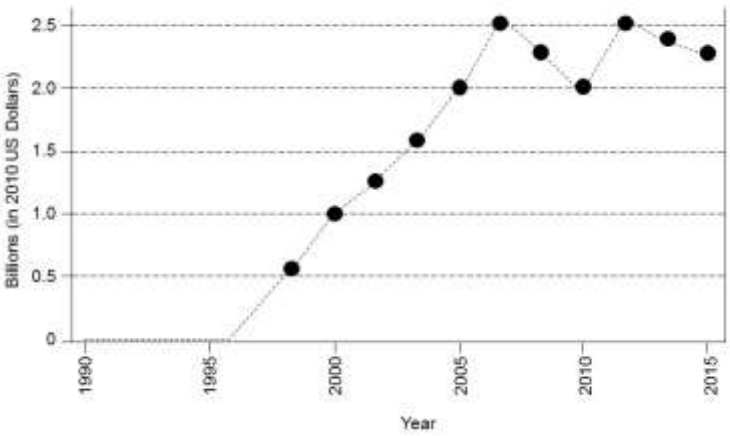
Industrial Sectors

In addition to tourism, the two primary industries which have driven Cambodia's economic development are apparel and rice production; whereas the apparel sector only emerged in force since the early 1990s, rice production has been a cornerstone of the Cambodian economy for centuries.

Apparel Sector. The World Bank Group (2015) has noted that many developing countries turn to apparel manufacturing because it is a global industry, is labour intensive and is often staffed by women, and thus the sector has the multiple benefit of generating exports, creating jobs and empowering women by providing opportunities in an expanded work force. Cambodia has been no different to other developing countries in this regard. However, while there are obvious challenges associated with the sector, including low wages, long hours, high temperatures and noise levels, and poor air quality, its strategy of embracing garment manufacturing as an economic driver has resulted in almost unprecedented industrial growth.

Figure 8 shows the annual revenue from the apparel industry from exports to the U.S. market between 1990 and 2015. Export earnings from Cambodia's apparel sector did not begin until 1996, three years after MVU was established, at which stage revenue from apparel skyrocketed to $2.5 billion in 2007-2008, declined by 20% during the GFC, after which it has remained at $2.25 and $2.5 billion between 2010 and 2015. The growth of the garment industry has contributed to the overall contribution of Cambodia's industrial sector to GDP, which increased from 15% of total GDP in 1995 to 28% by 2011 (World Bank, 2015a, p. 2).

One of the main challenges to (and objections of) apparel manufacturing in developing countries is the justifiable argument about working conditions. The four primary areas of non-compliance in the sector when evaluated against industry best practice standards (e.g., the Better Factories Cambodia Program) are ambient conditions (such as air quality, temperature, and sanitation facilities), workplace safety, wage policies, and freedom of association and collective bargaining. Since 2000, Cambodia's apparel sector non-compliance rates have fallen by 50% between 2000 and 2015 (World Bank Group, 2015, p. 40).

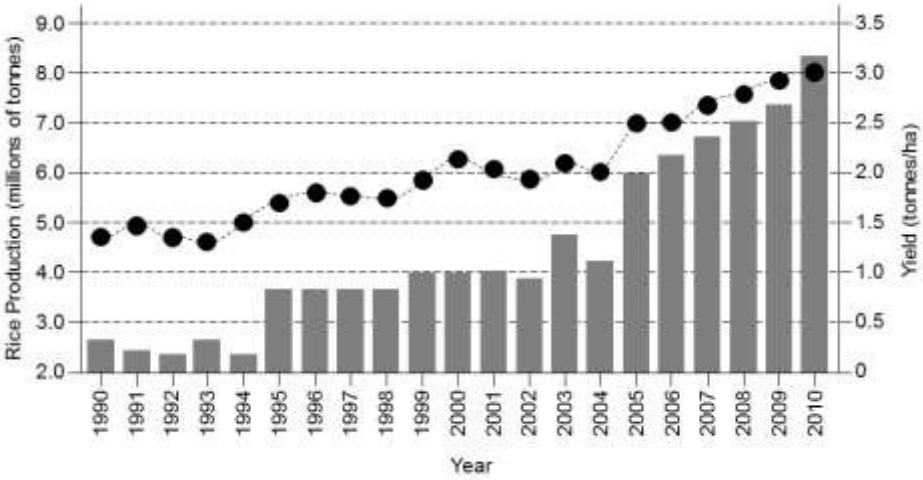


Source: World Bank Group, 2015, p. 18.

Figure 8. Cambodia's annual apparel manufacturing revenue in billions of dollars derived from exports to the U.S. between 1990 and 2015.

Rice Production. Prior to the KR period, Cambodia was known throughout Asia as a "rice basket", meaning that it produced enough rice to meet domestic consumption requirements as well as exporting large quantities throughout Asia. However, during the 1970s and 1980s, Cambodia became a net importer of rice, with a shortfall of 100,000 tonnes to meet domestic consumption in 1991. The 1990s saw a complete turnaround in rice production, with annual rice harvests growing steadily since that time, particularly after 2004, with traditional non-aromatic varieties, fragrant varieties and high yielding varieties (HYV) of rice each making up about 33% of the rice market.

As shown in Figure 9, between 1990 and 1994, Cambodia rice production remained stable at an average of about 2.5 million tonnes per year; this figure jumped to an average of 4.5 million tonnes between 1995 and 2008 (an 80% increase), after which rice production continued to rise. During the same period, rice yields were stable at about 1.4 tonnes per hectare until 1994, after which they rose to an average of about 2.0 tonnes per hectare (a 45% increase).



Source: World Bank, 2015b, p. 18.

Figure 9. Cambodia's annual rice production in millions of tonnes and rice yields per hectare between 1990 and 2010.

Cambodia, which had an export target of 1.0 million tonnes in 2015, now has a rice surplus, most of which is exported to Thailand, Vietnam, China, Russia and the European Union. For example, rice exports were 51,000 tonnes in 2010, 175,000 tonnes in 2011, and 250,000 tonnes in 2012 (World Bank, 2015b, p. xvii), with milling capacity tripling from 95.5 tonnes per hour to 322 tonnes per hour between 2009 and 2011, and polishing capacity quadrupling from 72 tonnes per hour to 302 tonnes per hour during the same period.

Global Competitiveness

The World Economic Forum (2006, 2014) has developed the global competitive index (GCI). The GCI is composed of three factors: *basic requirements*, including health and primary education, macroeconomic environment, infrastructure and institutions, which make up 60% of the total score; *efficiency enhancers*, including higher education and training market efficiency, labour efficiency, technological readiness and market size, which make up 35% of the total score; and *innovation factors*,

including business sophistication and innovation, which make up 5% of the total score.

Since 2000, the GCI has rated between 125 (in 2005) and 144 (in 2014) countries on these three primary sub-indices, with a higher position in the ranking representing a more competitive economic and social environment.

Table 4 presents the GCI for Cambodia, which was not included in the GCI until 2005. In 2005-2006, Cambodia ranked 111th out of 125 countries (89th percentile), 97th out of 142 countries in 2011-2012 (68th percentile), and 88th out of 144 countries by 2013-2014 (61st percentile).

On some sub-indices in 2013-2014, Cambodia ranked in the top 50 countries (34th percentile) of 144 countries, including annual percent change in inflation (ranked 44th), government debt as a percentage of GDP (ranked 37th), percentage of children enrolling in primary education (ranked 31st), total tax rate (ranked 15th), imports as a percentage of GDP (ranked 13th), exports as a percentage of GDP (ranked 20th), hiring and firing practices (ranked 15th), pay and productivity (ranked 32nd), women in the labour force as a ration to men (ranked 16th), and legal rights (ranked 44th). Between 2005 and 2014, Cambodia therefore moved 28 percentile ranking places (from the 89th to the 61st percentile) higher on the GCI, representing a significantly increased economic and social competitiveness environment over nine years.

These data for Cambodia compare favourably with many of its neighbours, including Thailand which ranked 39/125 (31% percentile) in 1999, 34/125 (27% percentile) in 2005-2006 and 31/148 (21st percentile) in 2011-2012, a 10-place improvement in percentile ranking between 1999 and 2012, Vietnam which ranked 77/125 (62nd percentile) in 2004-2005 and to 68/148 (49th percentile) in 2011-2012, a 13-place improvement in percentile ranking between 2004 and 2012.

Pakistan, which ranked 91/125 (73rd percentile) in 2004-2005, in 2011-2012 ranked 129/148 (87th percentile), a 14-point decline in percentile ranking between 2004 and 2012 (World Economic Forum, 2006, 2014). Lao PDR was not listed on the GCI until 2013-2014, when it ranked 92/148 countries; by 2014-2015, its ranking had decreased to 94/144 countries.

While Cambodian GCI data were not collected during the 1980s or early 1990s, and given that Cambodia ranked at the bottom of world tables for poor countries in 1990, it can reasonably be assumed that had

competitiveness data been collected before 2005 Cambodia would not have ranked higher (and most likely would have been significantly lower) than the 89th percentile observed in 2005, leading to the likely conclusion that Cambodia as a nation became more competitive in the 1990s and early 2000s.

Table 4: Global Competitive Index for Cambodia in 2005-2006 and 2013-2014 with percent change.

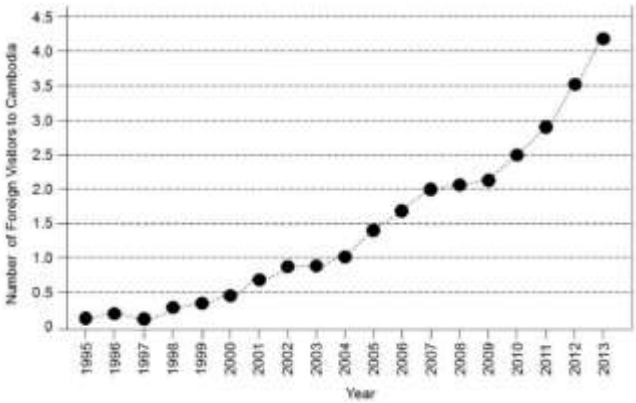
Parameter	2005-2006	2013-2014	Change in Percentile Ranking
Basic Requirements	100/125 (80th percentile)	99/148 (67th percentile)	13↑
Health and primary education	98/125 (78th percentile)	91/148 (61st percentile)	17↑
Macroeconomic environmental	101/125 (81st percentile)	101/148 (68th percentile)	13↑
Infrastructure	97/125 (78th percentile)	83/148 (56th percentile)	14↑
Institutions	95/125 (76th percentile)	99/148 (67st percentile)	9↑
Efficiency Enhancers	110/125 (88th percentile)	91/148 (61st percentile)	27↑
Higher education and learning	110/125 (88th percentile)	116/148 (78th percentile)	10↑
Market efficiency	99/125 (79th percentile)	55/148 (37th percentile)	42↑
Financial market development	–	27/148 (18th percentile)	–
Labour efficiency	–	65/148 (44th percentile)	–
Technological readiness	105/125 (84th percentile)	97/148 (66th percentile)	18↑
Market size	–	92/148 (62nd percentile)	–
Innovation factors	102/125 (82nd percentile)	83/148 (56th percentile)	26↑
Business sophistication	100/125 (80th percentile)	86/148 (58th percentile)	22↑
Innovation	98/125 (78th percentile)	91/148 (61st percentile)	17↑
Total Global Competitive Index	103/125 (82nd percentile)	88/148 (59th percentile)	23↑

Source: World Economic Forum, 2006, 2014.

Economic Freedom Indicators

On a scale of 0-100, with a higher ranking representing greater economic freedom (100% = most free; 0% = not free), the Heritage Foundation (2015), ranks ten national components, including rule of law, freedom from corruption, fiscal freedom and government spending, to measure countries for economic freedom. Since 1997 to 2013, Cambodia's average change of freedom scores rose 16.25% (five factors decreased in freedom for an average of 9.26%, but four factors rose by an average of 23.27%). In 1997, Cambodia ranked 41.2 but by 2015 the country ranked 57.5 (a ranking which was stable after 2011), an increase of 16.2 ranking points; Cambodia ranked 110th out of 178 countries on the economic freedom index and 23rd out of 42 Asian countries.

To put this into context, the world average on the economic freedom index is 60.4 and the Asian regional average is 58.5, thus placing Cambodia below the regional average in 1997 but at parity by 2011-2015. This level of social stability in Cambodia after the establishment of MVU in 1993 is reflected in the number of foreign visitors to the country between 1995 (when records were first kept) and 2013, as shown in Figure 10. During this period, foreign visitors increased from 200,000 per year to 2.0 million per year in 2008, an increase of 900%, and after a levelling of visitors between 2007 and 2009 continued to rise to over 4.0 billion by 2013.



Source: World Bank, 2015a.

Figure 10. Number of foreign visitors to Cambodia between 1995 and 2013.

Poverty

Data on poverty since 1981 are presented in Table 5, although a significant amount of data is unavailable. Table 5 shows that 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 in undernourishment. 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 total Cambodian population with access to proper sanitation facilities and clean water increased from 3% to 30% and 28% to 60% respectively. The World Bank (2014, p. 12) also reported that Cambodia's poverty rate decreased by 63.3% between 2004 and 2011 (from 41.6% to 15.3%) and wealth rose on an indexed scale from 1.6 to 2.3 (or 45.6%) during the same period.

Data for even the poorest rural population in Cambodia indicate that poverty decreased from 59% in 2004 to 24% in 2011 (World Bank, 2015a, p. 37), and statistics from Cambodia's own Ministry of Planning (2014, p. 4), while indicating different poverty removal trends as those shown in Table 5, are largely consistent with an overall declining trend in poverty: 2007 = 47.8%; 2008 = 29.9%; 2009 = 22.9%, 2010 = 21.1%; 2011 = 19.8%; and 2012 = 18.9%.

The 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% during this period (World Bank, 2014, p. 107).

Table 5. 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, using the Cambodia Socio-Economic Survey (CSES) "food poverty" rating.

The percentage of household budgets dedicated to purchasing food declined from 68% of the total household budget in 1993 to 51% in 2011 (World Bank, 2014, p. 108), and undernourished people as a percentage of the total population decreased from 43% in 1990-1992 to 36% in 1998-2000 (United Nations Development Programme, 2003).

War and Democracy

The Institute for International Cooperation (2002) has documented the many dimensions of social reconstruction that have taken place in Cambodia since 1980, including changes to laws and the legal system and judiciary, recognition and monitoring of human rights, monetary system reforms, a strengthening of civil society and freedom of speech, and bilateral assistance and aid. 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 of these nations benefited from the intervention of Vedic Science-based educational, health and social welfare programs. [The role of Vedic Science-based programs in Mozambique has been documented elsewhere (e.g., Astill, 2001), but this author was unable to find any reliable evidence for the claim that these programs have directly influenced the social well-being of Namibia, although Hatchard and Cavanaugh do cite evidence for neighboring South Africa].

Hatchard and Cavanaugh (2009) quote King Norodom Sihanouk as saying: "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", and since the introduction of Vedic Science-based education to Cambodia, deaths related to war declined from 268 per year in 1993 to 14 in 2011 (World Bank, 2015a).

By way of contrasting the plight of Cambodia with other countries, Hatchard and Cavanaugh (2009) point out that many countries apparently had better prospects than Cambodia to progress in the 1990s but failed "to capitalize on their opportunities. For example, in 1993 the Republic of the Congo had the advantage of much higher per capita income, greater natural resources, and a history less disrupted by war.

However, a transition to democratic government supervised by the World Bank and began in 1993 gradually gave way to civil conflict. After the elections, factional fighting among elected parties eventually descended into civil war and the decade was characterized by political turmoil, civil conflict and economic stagnation."

Health

Another cornerstone of social well-being is health because there is a direct link between poverty and health, with the poor significantly more vulnerable to becoming sick. Cambodia has made impressive advances in health care since the early 1990s. At that time there were virtually no doctors and no hospitals in the country; by 2011 there were six national hospitals, 83 referral hospitals and 1,024 health centers; the Ministry of Health alone employs a total staff of 19,700, including 3,200 doctors, 9,000 nurses and 4,600 midwives (World Bank, 2014, p. 68).

Table 6 presents data related to health trends in Cambodia, including infant mortality rates of 86 babies per 1,000 live births for under 12-month olds in 1992 prior to the establishment of MVU decreasing to 42 per 1,000 live births by the time it closed in 2008 (a decline of 51% over 15 years). Infant mortality rates of 118 children per 1,000 live births for 1-5 year-olds in 1992 also decreased to 50 per 1,000 live births by 2008 (a decline of 58%), maternal mortality rates decreased by 1,200 per 100,000 births in 1990 to 200 per 100,000 births by 2010 (a decline of 83%), and the number of births in the adolescent population of Cambodia declined from 90 per 1,000 women before MVU began to 48 per 1,000 women by 2008 (a decline of 47% over 15 years).

According to the Institute for International Cooperation (2002, p. 221), the maternal mortality rate in Cambodia in 2000 was 470, compared to 650 in Lao PDR, 160 in Vietnam, and 44 in Thailand. From another data source as that provided in Table 6, from 1960, the infant mortality rate for children aged between 0-1 year of age 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 (a 29% reduction) compared to 96 in Lao PDR (a 38% reduction), 31 in Vietnam (a 79% reduction), and 30 in Thailand (a 71% reduction) 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 (a 25% reduction) compared to 116 in Lao PDR (a 51% reduction), 42 in Vietnam (an 81% reduction), and 37 in Thailand (a 75% reduction) 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.

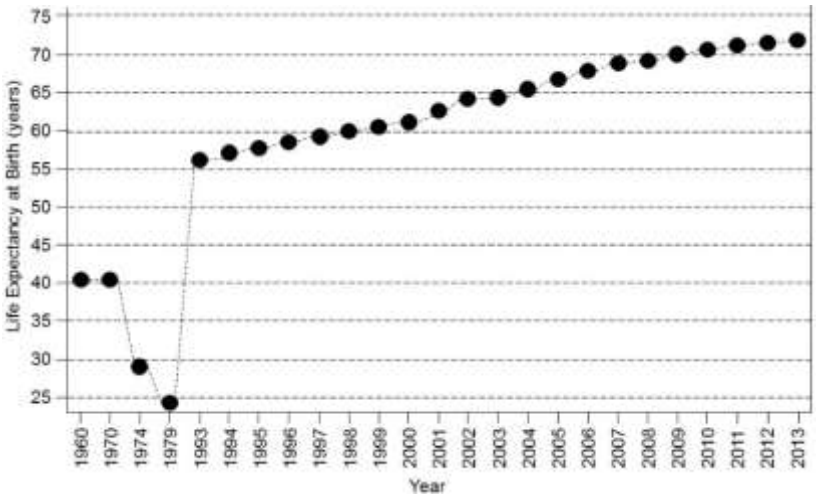
Table 6. Cambodian infant and maternal mortality rates, adolescent birth rate and immunization rates between 1990 and 2012.

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 ($)
1990	86	118	1,200	–	34	–
1992	86	118	–	90	–	–
1994	87	120	–	–	–	–
1996	88	123	860	52	–	22.8
1998	89	122	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 † Institute for International Cooperation, 2002, pp. 67 and 221.

The Institute for International Cooperation (2002, p. 230) has also reported on immunization rates for all diseases of children up to the age of two between 1988 and 1999, and found that immunization rates were 40% in 1988, 34% in 1990, 32% in 1992, 54% in 1994, 70% in 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 World Bank (2014) all reported that smoking rates for women declined 50%, from 8.1% of women smoking in 2000 to 4.0% in 2010, but smoking rates fell slower for men from 51% to 46%, a 10% reduction over the same period. The impact of war and social neglect on life expectancy can be seen in Figure 11. 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.



Source: World Bank, 2015a.

Figure 11. Life expectancy at birth in Cambodia between 1960 and 2013.

Trends in malnourishment for children under five years of age also indicate a significant shift in health. For example, 38.4% of children in Cambodia were classified as "underweight" in 2000, but this figure dropped to 28.2% in 2005 (but was still 28.3% in 2010); 49.7% of children were classified as "stunted" (i.e., short) in 2000, but this figure had dropped to 43.2% by 2005 and to 39.9% by 2010; 16.8% of children were classified as "wasted" (i.e., thin) in 2000, and this figure had also dropped to 8.4% by 2001, but was still 10.9% in 2010 (Asian Development Bank, 2014, p. 17). 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, can be obtained 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. Trends in undernourished people (those not receiving enough calories) as a percentage of the population follow similar trends to those cited above for malnourishment (those not receiving enough nutrients), indicating that undernourished people as a percentage of the population also declined from 43% in 1990 to 36% by 2001 (United Nations Development Programme, 2003, p. 198).

Human Development Indicators

The Human Development Indicator (HDI) of the World Bank (2014, pp. 12-13) combines several factors to capture health, education and living standards by normalizing an individual country's value within a range of observed values. On the HDI between 2000 and 2010, with an 18% improvement, Cambodia outperformed every country in its region, including China and Lao PDR (16% improvement each) and Vietnam (12% improvement), with the world average of 7% improvement during the same period, although the World Bank (2014, p. 12) also reported that Cambodia's overall HDI (i.e., 0.523 on a scale of 0-1) still ranks it among the poorest countries in the region and 139th poorest in the world.

However, the United Nations Development Programme (2014, p. 17) reported that Cambodia's HDI had increased to 0.584 by 2014, an 11% increase over 2010 and 136th out of 187 countries. Cambodians also experienced less hunger (e.g., food shortages declined from an average total of two weeks per year in 2004 to half a week by 2011), they felt safer (neighbourhood safety reached 80% in 2011, up by one third since 2004), and they experienced less crime (victims of robbery were down from 4% of the population in 2004 to 1.7% in 2011), according to the World Bank (2014, p. 13).

Education

UNESCO (2011, pp. 227-133) 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. For example, UNESCO (2011, p. 136) states that during Cambodia's conflict period between 1967 and 1978, an average of 2.3 school years were lost for an average -1.1% in growth rate of years in school compared to +4.0% growth rate of years in school before the conflict period. UNESCO (2011, p. 227) goes 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 improved economic and social conditions, one of the primary sectors within the Cambodian economy to have

experienced significant expansion is education. A variety of indices may be used to measure educational development, including literacy rates, female participation rates, intake ratios, and enrolments and completion rates, and UNESCO (2011, pp. 34-35) 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 higher investments in education result in significantly reduced loss of life (they claim 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 the right areas of the economy, including health and education), which has paid off handsomely for Cambodia because it made these priority areas are the period of conflict. UNESCO (2011, pp. 221-222) 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' effort to establish MVU in Cambodia have their roots in this stratagem.

Table 9 presents 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, 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), the Royal Government of Cambodia spent 10.9% of its total budget on education in 1994 growing to 20.8% by 2010. According to UNESCO, Cambodia actually spent 13.9% of its national budget on education in 2000 increasing to 19.8% and 18.3% by 2004 and 2006 respectively; this compares favourably to Vietnam, which only spent 5.7% of its budget on education in 2008 (UNESCO, 2011, p. 103). UNESCO maintains the Cambodian government 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).

Table 9. 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, 2015a, and [#] Un, 2012, pp. 44-45.

Persistence to attend the last grade of primary school with your cohort is negatively correlated with poverty (UNESCO, 2011, p. 47), and in Cambodia persistence was 35% for girls and 44% for boys in 1995, increasing to 57% for girls and 52% for boys by 2008 (World Bank, 2015a). Primary school completion rates also increased from 43% (48% males and 43% females) in 2000 to 83% (81% males and 85% females) by 2005. UNESCO (2011, p. 55) indicates that secondary education completion rates increased in Cambodia from 18% in 1999 to 42% by 2008 (a 139% increase), a change not observed in Lao PDR, which increased completion rates from 32% to 44% (or a 37% increase) over the same period. This finding further confirms that as poverty rates declined in Cambodia persistence and completion rates increase accordingly.

As a consequence, according to the United Nations Development Programme (2003, p. 198), youth literacy rates in Cambodia increased from 73.5% in 1990 to 79.7% in 2001, and UNESCO (2011, p. 66) maintains

that Cambodia will achieve its Millennium Development adult literacy target of 97% by 2015, unlike both Thailand and Lao PDR (2011, p. 66). 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, 95% improvement over 22 years.

During this time, the number of pre-schools increased from 1,160 in 2002-2003 to 1,500 by 2006-2007, the number of primary schools increased from 5,900 in 2002-2003 to 6,350 by 2006-2007, the number of secondary schools increased from 585 in 2002-2003 to 1,125 by 2006-2007 (Ministry of Education, Youth and Sport, 2011, p. 3), and universities and institutions of higher learning in Cambodia also increased dramatically from eight in 1993 to 63 in 2007 and to 95 in 2014 (Fergusson, *et al.*, 1996b; Ministry of Education, Youth and Sport, 2011, p. 7). Schools with drinking water and latrines also increased from 42.7% of the total in 2003 to 60.8% by 2007 (Ministry of Education, Youth and Sport, 2011, p. 3).

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population in 2004 to 1.7% in 2011), according to the World Bank (2014, p. 13).

Other human development indicators include the percentage of women holding seats in the national parliament, which, as a percentage of total seats, were held 5.8% of parliamentary seats in 1997-98 (7 seats), 8.2% in 1999, 7.4% between 2000-2002 (10 seats), 9.8% in 2003-2006 (12 seats), 19.5% in 2007, 16.3% in 2008 (24 seats), 21.1% in 2010 (26 seats), and 20.3% in 2012 (24 seats); no seats were held in parliament before 1997.

Similarly, indicative of a growing awareness for the need to protect the environment, the proportion of the land and marine surface area of Cambodia protected from development in 1990 was just 54 square kilometers or 0.03% of the total area; by 2000, that number had risen to 42,193 square kilometers or 23% of the total area and by 2014, the number had risen again to 47,466 square kilometers or 26% of the total surface area of Cambodia (United Nations, 2013). Therefore, the area of land and marine surface of Cambodia that was protected from development increased by 880,000% over 24 years.

DISCUSSION AND CONCLUSION

This descriptive research study has not attempted to statistically control for possible compounding variables, indeed an SIA does not allow for such testing. However, it is reasonable to consider the primary alternate inputs which may have played a role in the economic and social progress of Cambodia as documented by the study.

Forward momentum after 1980. It is obvious that to some degree Cambodia was on a more sustainable economic path after the ouster of the KR in 1979. In fact, it can be argued that nothing is more devastating to the economic and social well-being of a country than the policies of a despotic regime like the Khmer Rouge, and any semblance of national stability after their reign of terror would have automatically resulted in greater economic and social prosperity. It could, therefore, be argued that irrespective of the intervention of Vedic Science-based education in 1993 a general improvement in many economic and social measures would have occurred naturally, and this conclusion is supported, for example, in the increased life expectancy of Cambodians after 1979. However, data presented in this study indicate it was only after 1993, not after 1979, that

significant improvement was observed. Such a conclusion is true, for example, in the emergence of the garment industry after 1995, an increase of foreign visitors and influx of foreign currency after 1995, and improvements in rice production after 1994.

Influence of civil unrest and political turmoil on the economy. There can be no doubt that civil unrest and political turmoil adversely affect a nation's economic and social stability. However, it is also true that the greatest reduction in unrest and turmoil occurred after 1993 not simply as a result of the ouster of the KR. Indeed, while some credit can go to the successful elections held in May 1993, profound social stability actually did not come to Cambodia until later in the 1990s. In fact, after the election there were still a number of constitutional crises, including Prince Sihanouk's "constitutional coup" of late 1993, a territorial "secession" led by Prince Chakrapong in 1993 and subsequent coup attempt in 1994, and the Hun Sen "hint" of a military coup in 1993 (Findlay, 1995). It is therefore not unreasonable to propose that it was actually the peace-creating influence of national coherence created by the group of meditators at MVU which had a fundamental and salutary influence on the levels of unrest and turmoil during these years.

Role of the United Nations Transitional Authority in Cambodia. With agreement of the ruling State of Cambodia, 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 specifically oversee the country's first "free and fair" elections in 1993. UNTAC was headed by Yasushi Akashi of Japan, Lieutenant-General John Sanderson of Australia, and Brigadier-General Klaas Roos of the Netherlands, and the Authority included approximately 16,000 military personnel from countries such as Australia, India, Germany, Hungary, Poland and New Zealand, 3,500 civilian police and 2,000 civilians as well as locally recruited staff, most of whom acted as interpreters. During the period leading up to the May 1993 election, some 50,000 Cambodians served as electoral staff and returning officers. The UNTAC initiative cost the international community about $1.6 billion, and an argument can be made that UNTAC was largely responsible for Cambodia's subsequent economic and social revival, although most impartial observers, including the UN own investigators, are fair more circumspect about its long-term role (e.g., Findlay, 1995).

While it is indisputable that the presence of UNTAC affected 1990s Cambodia, it would be foolhardy to lay a great deal of the praise for economic progress and social well-being at the feet of UNTAC. For example, while the Authority "satisfactorily" achieved many of the UN's goals (including verifying withdrawal of Vietnamese troops and beginning "the process of reconstructing Cambodia's infrastructure, administration and economy" [Findlay, 1995, pp. 103-104] and was therefore hailed as "a major achievement of the United Nations"), it cannot reasonably be claimed that UNTAC 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, had to remove 2,000 of its own Bulgarian military contingent (so-called BulgaBatt) because they threatened to kill Lieutenant-General Sanderson over a pay dispute, and thus the Paris Peace Accords "failed to bring peace to Cambodia" (Findlay, 1995, p. 106).

As Findlay (1995, pp. 161) noted, in the year after UNTAC left the country, Cambodia "led a roller-coaster existence, experiencing the highs of newly won international recognition and support along with the lows of continuing political instability and violence. The country's wildly fluctuating fortunes have jeopardised some of the gains of the Paris Accords and called into question some of the fundamental assumptions behind the deployment of UNTAC". However, Findlay (1995) does go on the say that few of the negatives developments that occurred in Cambodia after UNTAC left can be directly attributable to UNTAC itself, and therefore the least parsimonious interpretation of UNTAC's role in Cambodia's future well-being would be to say it partially contributed to the creation of an environment of social and political stability upon which future development might be realised.

Transition from a control economy to a market-driven economy. From 1980 through to 1994, the Cambodian economy was administered through a centralized, planned system inherited from Vietnam, which in turn had been inherited from the Soviet Union. The government moved from this type of planned economy to a market-driven economic model in 1995, and it is to the adoption of this style of government that some Western observers attribute Cambodia's economic prosperity in the late 1990s and 2000s (Institute for International Cooperation, 2002, p. 165). However, as reflected in these data, many of the growth indicators in the economy were occurring prior to 1995, and thus a switch to a market-

driven approach cannot fully account for the surge in economic growth in Cambodia during these years. This conclusion can be seen in inflation data: Cambodia's government moved from a planned to a market-driven economic model in 1995, but after averaging 119% between 1989 and 1993, inflation dropped to 10.4% in 1994 the year after MVU was established, remaining low thereafter. It would therefore be injudicious to suggest that a market-driven model introduced in 1995 could have caused this significant drop in inflation in 1994.

Integration of Cambodia into international markets and preferential treatment. There can be no denying the integration of Cambodia's economy into international markets helped foster economic growth after 1995 (World Bank, 2014, p. XIII), and that such integration contributed to, for example, greater economic competitiveness, a "fair[er] share for women" (UNIFEM, *et al.*, 2004), and the accession of Cambodia into the World Trade Organization in 2003, the first country with "least development country" status to have ever done so (Ministry of Women's Affairs, 2004, p. 4). Moreover, Cambodia received preferential financial treatment after 1995 under the Multi Fibre Agreement and was granted special access to European and U.S. apparel markets, which improved economic outlook, particularly that of girls and women (Ministry of Women's Affairs, 2004). These opportunities also aided Cambodia's economic, and therefore social, development during this period.

Benefits gained from donations and foreign investment. As described above, it can be argued that significant foreign investment from the International Monetary Fund, World Bank, Asian Development Bank and other national donors (so-called "Official Development Assistance" or ODA) contributed to the many economic improvements presented in this study. For example, in 1998, Cambodia received $337 million ODA, with the ratio of net sum ODA to GDP being 11.9% in that year. This ratio compares favourably to Lao PDR which was 23%, but is higher than Vietnam's 4.3% in the same year (Institute for International Cooperation, 2002, p. 10). However, ODA cannot fully account for the economic and social changes described in this study as the net sum ODA actually declined by 40% after a high of $556 million in 1995 (Institute for International Cooperation, 2002, p. 10).

Increased labour force. UNIFEM *et al.* (2004, p. 34) report the Cambodian labour force increased by 23% between 1997 and 2001, growing from 4.7 million people to 5.8 million over four years, with

participation rates for both men and women higher than the more developed neighbouring Thailand (Cambodia has the highest female participation rate of all Asian nations at 82%, according to the United Nations [UNIFEM, *et al.*, 2004, p. 36]). An increased labour force obviously has significant flow-on effects for all areas of a nation, and the fact that more men and women entered the labour force after 1995 indicates that the overall economic conditions for growth were in place.

Contribution of non-governmental organizations. Due to political instability in and breakdown of international relations between Cambodia and the Western world from 1980 to 1993, Cambodia relied on the goodwill and programs of about 500 local and foreign non-governmental organizations (NGOs) in the 1990s (Institute for International Cooperation, 2002, p. 13). As was the case for AACF, most NGOs focused on healthcare, education, water sanitation, and women's rights and gender equality (UNIFEM, *et al.*, 2004), and these undoubtedly affected many of the social measures presented in this study. However, many NGOs also faced significant hurdles in Cambodia during this period, including lack of local resources, a shortage of funds to maintain the sustainability of projects, and an inability to sustain a viable volunteer work base which curtailed performance. Moreover, unlike AACF, few NGOs specialized in the growth of human potential through self-development programs like those described herein, and thus many of the creativity and productivity drivers which foster growth cannot realistically be attributed to NGOs.

Global Financial Crisis. There can be no doubt that the GFC adversely affected the economies of many countries after 2008; that it occurred at a time coincidentally with the conclusion of MVU's operation and the influence of coherence generated by group meditation in 2008 means it is not reasonably possible to isolate the impact of one from the other in any change to economic data post-2008 through to the present. The most reasonable interpretation of the data is that on several economic measures, Cambodia's rate of growth, after declining in 2008, returned to trend or close to trend three years after the GFC, but at significantly lower levels of performance and output.

There can, however, also be no doubt that Cambodia's economic and social development after the early 1990s is remarkable, and the data presented here indicate the Cambodian economy and quality of life for most Cambodians improved significantly after 1993. While many governmental and non-governmental initiatives may have contributed to

this improvement, and some salutary changes may not be attributed solely to the implementation of Vedic Science-based education at MVU, it is relevant to reiterate that Maharishi established MVU and implemented his programs for social welfare in Cambodia in the early 1990s with the express purpose of achieving these economic and social outcomes; indeed his 1991 publications predicted many of the outcomes reported herein. 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 worldwide effort to reduce global poverty), but the international focus on and momentum for poverty removal in Cambodia occurred mostly after 2000, long after the beneficial trends reported here began. As stated above, in 1993 Cambodia ranked 152nd out of 152 countries on a rating of poverty; by 2014, it ranked 63rd out of 152 countries on the same index. While a causal link between the introduction of Vedic Science-based education and a reduction in poverty after 1993 cannot be established based on an SIA, enough data have been presented to indicate that 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 neighbours, and generally out-performed other least developed nations in Asia, thereby answering research question 3) in the affirmative.

Collectively, the various inputs described above may have contributed to an improved Cambodia, but it is also reasonable to point out that virtually all were directed at impacting the "outer" political level of life, including policy development, law and order, and human rights, as opposed to the development of "inner" aspects of life, such as intelligence, creativity, energy, happiness and peace. Vedic Science-based education therefore represents a new approach to social change: it specializes in developing the inner, holistic values of life by reducing individual and collective stress, and thereby changing the way outer life is lived. In this sense, it creates what Maharishi calls the "ideal of government" (Maharishi Vedic University, 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 has pointed out "we have proved that we have the ability to create a new sunshine for all mankind" (Maharishi Vedic

University, 1991, p. 28). From this we conclude that only MVU contributed to developing the holistic values of life in Cambodia, focusing on "100% inner glorification" of life to produce "100% outer glorification" of economic and social progress, thereby fulfilling Maharishi's publicly declared maxim for Cambodia: "Vedic Science-based education provides complete and holistic knowledge of Natural Law, bringing life in accord with all the laws of nature, resulting in fulfilling progress for everyone" (Maharishi Vedic University, 1991, p. 41).

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), Dr. Ung Huot quoted Cambodian Ambassador to Australia, Chheang Vun, who said "the Royal Government of Cambodia is extremely pleased with the success of Maharishi Vedic University" (Fergusson & Bonshek, 2013, p. vi), and Hatchard and Cavanaugh (2009) cited the late King Norodom Sihanouk as saying: "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".

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