

SCIENCE, RELIGION, AND DEVELOPMENT:

Promoting a Discourse in
India, Brazil, and Uganda



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Introduction

To speak of religion and spirituality—matters often considered essentially personal—in a domain such as “international development” may seem odd to many. And yet only a few would claim that more than five decades of work in the field of development, for the most part dominated by a materialistic vision, have succeeded in bringing prosperity to the people of the world. While improvements in certain areas of life are discernable thanks to the efforts of dedicated individuals and institutions, the problems facing humanity have increased; the gap between the rich and the poor has become wider; and more people have come to live in extreme poverty than ever before.

From among those who propose a shift in the prevalent development paradigm, many believe that the spiritual dimension of human existence needs to be given its due place in current thought. The Institute for Studies in Global Prosperity has tried to contribute to the broad discourse on development a stream of thought and practice that promotes a spiritual perspective on the advancement of civilization. To this end it has sought to explore

the relationship between science and religion and their interface with development by promoting a discourse on science, religion, and development with different individuals and organizations in a selected number of countries.

Introduction

It may be argued that attributing the shortcomings of development to the failure of materialism does not immediately lead to religion, much less to a discourse on science, religion and development. Why, then, one may reasonably ask, the emphasis on religion rather than on spirituality. The Institute has preferred to use the word religion in order to convey the idea that the advancement of development thought and practice requires more than reflection on individual behavior—the structures of society, its systems and processes, including its knowledge systems, also need to be considered. Moving beyond the simplistic mantra that if people were simply “more spiritual” things would be better, the Institute has focused on the idea of religion as a system of knowledge and practice that would complement science in bringing prosperity to all of humankind.

Adopting this approach does not imply that the Institute denies the extent to which religion has been misused in the past. Unfortunately, the very word “religion” can evoke certain images of rites, practices and modes of thought that are unappealing to the modern mind. But then is it not true that science, too, has been misused? While it is true that religion can fall prey to fanaticism and fundamentalism, materialism can also lead to its own brand of fanaticism. To guard against the further misuse of religion, it is necessary to know how it has been distorted throughout history. However, to dismiss religion as irrelevant to the process of civilization building is a mistake that humanity cannot afford to make. The activities of the Institute are thus based on the premises that every human endeavor is dependent on certain

knowledge systems; that development has to be knowledge-based; and that the two systems of knowledge and practice which have accompanied humanity throughout its long evolution are science and religion. Science, the Institute proposes, is concerned with the workings of the physical universe, the human psyche, and social structures and processes, and religion, with the powers of the human spirit and its operation in society. In speaking of religion, the Institute is not concerned with sectarian movements. Rather its interests lie with the impact of religion on the heritage of humanity as a whole—a scope of study that has equally occupied science. In addition to being considered sources of knowledge, the two are regarded as forces—both spiritual and material—that are responsible for the progress of the human soul and society.

The following is an extract from a declaration prepared by those who participated in the Colloquium to launch the discourse on science, religion and development in India. It captures the sentiments of many who long to see a more holistic approach to development:

Effectively addressing the problems now convulsing human affairs—crushing poverty amidst vast sections of the world’s population, oppression and exploitation of women and minority groups, intractable conflicts among nations and peoples, disruption of global ecosystems, the breakdown of vital social bonds, and the erosion of standards of decency, among others—will require new models of social transformation that recognize the deep connection between the material, moral and transcendent dimensions of life...Without such a unified interaction between the mind and the heart, between the scientific and religious endowments of human experience, relief from terrible suffering now endured by so many members of the human family will remain elusive...Our hope is to

promote new avenues of inquiry and activity that expand understanding, raise the bar of objectives, and offer fresh insights and vision to all those who are protagonists in the endeavour to improve human well-being.

Introduction

This publication is an effort to bring together the experience of groups of people—academics, policy makers, and development practitioners—who have contributed to the discourse on science, religion, and development in three countries in three different continents. Participants in each country discussed the very concepts of science, religion, and development; addressed the question of how science and religion should interact with one another; and tried to set a different tone for the prevalent discourse on development by articulating and redefining some of its major issues and what they believe should be done about them. As the accounts show, the task is far from simple. This document is, then, a modest contribution to the formidable task of changing the definitions and meanings of some of the concepts that underlie development thought. The Institute hopes that it may be found useful by those groups and individuals who are dedicating their efforts to the creation of a world that is both spiritually and materially prosperous.



India

India is uniquely poised among nations both in terms of what it can offer to the discourse on science, religion and development as well as how much it can gain from it. With its vastness and tremendous diversity, India represents a significant cross-section of humanity and, by extension, it embodies all of the opportunities and challenges facing development practitioners the world-over. Ever since the nation's independence in 1947, huge amounts of money have been spent by private and public bodies to raise the standard of living of its people. Parallel to the vast outlay of material resources, experiments with almost every available approach to economic and social development have been pursued in the nation's extraordinarily large and heterogeneous polity.

Initially, the development plans of the State focused on raising the savings rate in order to ensure capital accumulation, paving the way for the nation's modernization through industrialization, and launching large infrastructural projects. During the 1960s, attention shifted to strengthening agriculture and reducing income disparities. The Green Revolution helped prevent mass famine and

import substitution industrialization received much focus during this period. In the '70s and '80s there was a politically-initiated shift in development planning towards poverty alleviation and rural employment. This was also a period in which the focus turned to appropriate technology, the role of women in development, community and institutional capacity building, environmental preservation, people-centered development, community organization, and project evaluation. Participatory approaches to social and economic progress have also been extensively tried and tested.

Gradually from the mid-'80s India began a process of economic liberalization, which gathered momentum with the introduction of more fundamental reforms in the early 1990s and the 2000s. Such a shift was expected to add to the number of the middle class in India. Wealth, it was expected, would trickle down to the poor. Poverty alleviation, it was maintained, would continue along with a simultaneous stress on education, health and the increasing empowerment of women and the economically-weaker and socially-disadvantaged sections of society.

However, not even the most optimistic proponent of the model of free-market capitalism would claim that such a system could offer a remedy to the grave problems facing present-day India. Although in the last decade the country has shown signs of robust economic growth, causing it to be globally recognized as an emerging power, this admittedly proud achievement stands in humbling contrast to the story told by the statistics—India is ranked 134 out of 182 countries on the UN Human Development Index, one fourth of the country's population lives on less than a dollar a day, around 400 million people remain illiterate, 76 million rural homes have never seen electricity, and although three fifth of the population is involved in agricultural production its contribution to the GDP

is only 16 percent. The repercussions of such extreme inequity on the country's social fabric are hard to fathom.

Promoting a Discourse

With its largely religious population, its history as a testing-ground for various development theories and approaches, and the formidable developmental challenges that continue to bewilder its leaders, India was clearly an eminently suitable venue for the initiation of a discourse on science, religion and development. The development community in India, while well-versed in the latest development thought and practice, was also acutely aware of the gap between theoretical projections and the reality at the grassroots. Religion and spirituality are still very much a part of everyday life and it seemed strange to talk about the welfare of the people without taking this fact into consideration. In order to introduce the spiritual dimension into the discourse on development and to integrate the insights gained from religion with those that emerge from scientific inquiry, the Institute launched a year-long conversation with development thinkers and practitioners in India on the present state of development thought and practice.

India

Based on what it learned from these interactions, the Institute prepared a concept paper titled *Science, Religion and Development: Some Initial Considerations*. The paper was first presented at a Colloquium on Science, Religion and Development held in New Delhi in November 2000.

The practicalities of implementing this vision of development in the Indian context became the subject of serious deliberations among the 150 participants of the Colloquium who represented different development organizations, academic institutions, research organizations, government agencies and policy institutes.

Such was the intensity of the exchange of ideas during the sessions carried out over four days that, in the words of one speaker, the atmosphere resembled “a dam bursting”—most participants had clearly pondered these issues for a long time but had never before had a chance to discuss them openly.

India

At the end of the Colloquium, based on the request of participating organizations, a Secretariat for the promotion of a discourse on science, religion, and development in India was established by the National Spiritual Assembly of the Bahá'ís of India. Its objective was to help coordinate and sustain this discourse. True to its mandate, the Secretariat gradually became a hub for diffusing the ideas of the concept paper to an ever-widening network of development organizations, policy makers and academicians. Its initial focus was on taking the discourse to the various states in India by hosting seminars in collaboration with partner organizations. Along with this, the Secretariat continued to engage influential players in the development field through round table conferences, seminars and strategy meetings. Gradually a discourse began to take shape as an ever growing number of organizations and individuals became involved.

This phase culminated in a seminar in December 2004. The papers presented there—later compiled in a book titled *Science, Religion and Development: Advancing the Discourse*—provide a glimpse of both how far the discourse had come and the distance that yet remained to be covered. Almost all of the authors examined the contemporary crisis in the development field in India in the context of the widening gap between the rich and the poor that has accompanied the adoption of economic policies favoring liberalization and globalization. There was little hope, in the opinion of the contributors, for the realization of the United Nation's Millennium Summit goals of halving the number of those living

without basic amenities by 2015, or of other similarly optimistic projections.

By now, it was clear that the discourse had reached a turning point. The idea of a new model of development that draws upon science and religion had been enthusiastically welcomed by many in the development community. But there was also the need to enrich the discourse with a body of knowledge derived from the application of these principles. There were many important questions that needed to be answered and clarified given the abstract nature of the concept of spirituality: From among all that can be considered spiritual, what elements are most relevant to processes of social and economic development? How does one examine these elements? How does one foster them? How does one know that progress is being made in this regard? What are the indicators? What language can be used to describe these processes?

India

In its reflections, the Institute realized that the answers to these questions would likely emerge from its work with non-governmental organizations that are engaged in designing and carrying out projects at the grassroots, close to the people themselves upon whom any significant process of change will depend. The Institute decided to initiate an action research project to help a few organizations describe ways in which they meet the challenges that arise in their day-to-day work as they strive to apply spiritual principles and scientific methods to their plans and programs. The focus was on building their capacity to continuously reflect on their action and to systematize the knowledge generated as a result of this. The project, which was initially launched with two organizations and is now in the process of being carried out by a few more, is still in its early stages. It is anticipated that significant learning will emerge from the experiences of these organizations as they strive to arrive at unity of thought in their understand-

ing of specific spiritual principles and the implications of these principles for their work.

India

On the whole, efforts in the expansion and consolidation of the discourse have become steadily more systematic and focused and have benefitted from deepened understanding and elaboration of some of the concepts central to the discourse.

Basic Concepts

In the ten years of their engagement in the discourse, participants sought to explore and clarify their understanding of the central concepts of science, religion and development. What emerged was a rich tapestry of insights around each concept. In general, participants were critical of the distortions that have crept into the way the development community and society in general have come to view science, religion and development. Most participants also recognized the benefits that can accrue to the field of development by clarifying one's understanding and improving one's action through ongoing processes of reflection on action that support the systematic advancement of knowledge.

Science

On the question of science, participants on various occasions referred to some of the misunderstandings surrounding this concept. It was repeatedly mentioned that, notwithstanding general agreement among development planners and practitioners about the crucial role that science has to play in development, many lacked a common understanding of its nature or the ways in which it can contribute to the wellbeing of the masses of humanity. As the discourse evolved over several years, many of these misconceptions were brought to light. Some of them are as follows:

First, the practice of science is all too often reduced to the mere application of technology. What is lost sight of is the fact that science is a system of knowledge and practice that provides the methods and tools for the systematic and structured exploration of material and social reality. By asking questions about reality and seeking to answer them through a process of action, reflection and consultation, a population acquires the capacity to take charge of its own development and to promote the advancement of civilization. Due to the existing misrepresentation of the role of science in development, attention is focused on making people passive consumers of technology rather than on building their scientific capacity.

Second, because science explores the world of nature and is largely concerned with material reality, it is often confused with materialism. In its true form, science does not dispute or negate the existence of realities transcending material reality. This misconception is reinforced by the general lack of understanding regarding the nature of spiritual reality, which is assumed to be a magical and arbitrary world where neither reason nor logic apply. However, contrary to this notion, religion as a system of knowledge provides insights into the order and logic that govern the functioning of spiritual reality. Spiritual laws and principles provide the means for human beings to live in harmony with, and to grow in relation to, this reality. Failure to abide by spiritual laws leads to consequences that are just as real, although not always as immediately obvious, as failure to abide by the physical laws of nature. Breaking the spiritual law of honesty, for example, sets in motion a series of negative repercussions in the individual's social, spiritual and material life. Hence, in order to understand science it is also necessary to examine the conception of spiritual reality that exists in religion.

Related to this is the uncertainty surrounding the conception of science itself owing to the ongoing debate between foundationalism and relativism. The idea that one's thoughts and beliefs shape one's observations has been accepted in many circles and has led to widespread skepticism of the idea that one can gain reliable standpoint-independent knowledge about reality by using the methods of science. The extreme expression of this idea is seen in the ontological denial of any foundational reality, and the epistemological rejection of all attempts to advance knowledge about reality. Such extremely relativistic approaches to knowledge are most apparent in the social sciences because our social reality is, at least in part, socially constructed. The physical sciences, on the other hand, tend to be less relativistic. Many who work in the field of development also continue to repose much faith in the value of hard data and empiricism—yet the assertions of relativists are still clearly relevant. This often leaves development workers in an uncertain position between empiricism and relativism.

It was also noted by participants that spiritual principles have an important bearing on the production of scientific knowledge. Science is not only based on processes such as observation, deduction and induction, falsification and experimentation. It also requires that the scientist who is involved in this process demonstrate spiritual qualities such as the love of beauty and a commitment to veracity and an ability to draw upon the faculties of intuition, creativity and imagination. These are among the characteristics that should distinguish a true scientist.

Finally, many participants pointed out that there is a tendency to put too much emphasis on the method of analytical reasoning. This is at the expense of not taking into consideration the larger systems, or contexts, pertaining to a given subject or issue. Instead, reality is studied by breaking it up into ever smaller parts,

leading to the fragmentation of knowledge. While analytical reasoning is clearly indispensable to the production of scientific knowledge, it can only contribute to true understanding when the bits of reality that are analyzed are constantly being put together in order to gain a broader, more holistic, picture of reality.

India

In these discussions, the role of science in development was also examined in the context of the field of economics. Participants noted how the failure to take into consideration the spiritual dimension of existence naturally gave rise to limitations in the way economists view the human being or approach the question of development. Many economic theories, models and policies, for example, are based on the assumption that individual behavior is rooted in the desire of all human beings to maximize personal benefits (usually defined in material terms) and minimize costs (again usually defined in material terms). The purpose of life, our understanding of human interest, motivation, value and rationality have all been re-defined from this perspective, and the utility-maximizing, self-interested, labor-averse individual has come to form the epistemological basis of social life. When this logic is applied at different scales, then nations and other human groupings are similarly understood to be self-interested, power-seeking entities condemned to compete with one another and to exist in a state of perpetual conflict. With markets afforded a central role in the organization of society, development is equated with the provision of greater choices to people, material benefits and endeavors are regarded as ends in themselves, and all other social processes are driven by the exigencies of economic growth. Within the field, only “measurable” and materialistic indicators for progress such as per-capita consumption are given credence.

India

To demonstrate how a narrow devotion to the analytical method can lead to a failure of understanding, participants drew attention to the way the ideas of “Pareto optimality” and interpersonal comparability were being applied in the field of welfare economics. Citing the work of well-known economist Amartya Sen, they pointed out that a welfare economist has no way of telling the difference between a hungry person who suffers from low levels of well-being due to a lack of food and a person who has a similarly low level of well-being due to the ill-effects of having eaten too much.

Again, other participants noted that the tremendous advances in the field of information technology and bio-technology have the potential to address aspects of the educational and health needs of the masses of humanity. Yet, since such scientific activity is generally not informed by spiritual motives, and such technological innovations are generally not pursued with humanity’s most urgent needs in mind, these technologies are put to more “optimal” and “profitable” use—as defined by the material logic of the free market. The large corporations that fund this kind of research have the interest of their share holders, and not that of humanity as a whole, at heart.

It is apparent that the narrowly materialistic worldview underpinning much of modern economics has contributed to the degradation of human conduct and the corruption and dissolution of human institutions that can be witnessed around the world today. Spiritual principles such as the oneness of humankind and justice make apparent that cooperation and reciprocity, rather than competition and self-interest, should characterize economic relations and institutions. From a perspective that addresses both the material and spiritual imperatives of existence, it becomes clear that not only are the assumptions

of the present system not aligned with these higher principles, but that the system itself is set up in such a way that, in many cases, it punishes those whose economic behavior is more consistent with these principles. The disappearance of small-scale, diversified agriculture in many rural and small communities during the past century, for instance, speaks to this predicament.

One of the most pressing challenges before the development community, therefore, seems to be the dissemination of this broader conception of science among development planners and practitioners. Consequently, a high priority must be placed on finding ways by which this more organic conception of science can be used for the investigation of social reality, as well as the systematic and intelligent application of spiritual principles, by individuals, organizations and communities at the grassroots of the development process.

Religion

In a country such as India, with its vast and ancient religious heritage, conversations about the role of religion, together with science, in processes of social and economic development have been both extensive and rich. Throughout the years, participants in the discourse have directed their discussions to questions related to the nature of religion, the different forms it takes, and the influence it exerts on people's lives.

One major point underlying most discussions was that, in spite of all the claims about its irrelevance to contemporary life, religion continues to be a significant part of the lives of the majority of the world's people. It serves as a source of people's worldview, of their moral codes, their beliefs and values. It sustains hope,

provides meaning and, for many, serves as the deepest source of motivation.

India

Moreover, many participants in the discourse asserted that a significant portion of development workers also recognize a spiritual dimension to human existence. Grassroots development work is difficult and many development workers are motivated and sustained by spiritual convictions and religious beliefs. Development work is often carried out in trying conditions and as a profession it is generally not materially rewarding. Only a selfless person who is genuinely concerned about improving humanity's lot will venture into this area. Although an altruistic impulse or a desire to change society may drive a person for some time, sustained effort requires a deep-seated commitment to selfless, difficult work. For most people, such strong commitment receives its impetus either directly or indirectly from the spiritual teachings that have been propagated by the great religions of the world.

Participants in the discourse have also on many occasions referred to ways in which development efforts can improve if they incorporate into their projects—at the levels of conception and practice—the religious beliefs and practices of populations with which they work. For example, there are many beliefs in people's traditions that have to do with their relationship with nature. Most religious beliefs emphasize living in harmony with the environment. In fact, in many cultures, the earth, the sun and water are seen as manifestations of divine attributes. Efforts to preserve the environment, for example, can become more effective at the local level if they include these view points in their discourse. People are likely to participate more in these projects when they realize that their beliefs and customs are being respected. Similarly, all religious traditions emphasize the principles of unity, brotherhood and solidarity. Community life in many cultures revolves around

the application of such principles. Development thinkers and practitioners can both build on and learn from these practices.

The participants also recognized that, while religion is an important aspect of people's lives and it can be a source of insight and motivation for development projects, one cannot deny the havoc that has been wrought in its name throughout recorded history. Mendicancy, slavery, autocracy, war and the perpetuation of ethnic prejudices are but a few of the reprehensible practices that have been and are being perpetuated in its name. There are those who in the name of religion, have exploited and continue to exploit others for their own purposes. In India for instance, those in power have for centuries justified depriving women from equal rights and opportunities by invoking scriptures that seem to accord an inferior status to women. Many participants said that although disillusioned with materialistic approaches to development, they continue to be mistrustful of religion. To avoid these negative connotations, they suggest, the word religion should be replaced with spirituality. Given all the abuses that have taken place in the name of religion, should we not set aside religion and begin to explore the concept of spirituality in development? Would it not be better to direct our discussions to individual and collective experiences of spirituality? Are we not, after all, referring to qualities such as love, generosity, and compassion, qualities that find their expression in the personal behavior of individuals who worship and practice their beliefs according to their personal convictions?

India

While the above comments were appreciated by all, it was clear throughout the discussions that the topic of the discourse needs to be science, religion, and development and not science, spirituality and development. While spirituality is of paramount concern, to talk merely of spirituality has the danger of aggrandizing the kind

of individualism that can become an impediment to development. The spiritual dimension of human existence needs to be expressed both individually and collectively. What development thought and practice needs today is to acknowledge and take advantage of the unifying, integrating and organizing functions of religion. It is these functions that make religion a system of knowledge and practice that parallels and complements the system of science. By using science and its methods— empirical observation, induction and deduction, falsification and experimentation—humanity explores and exerts influence over the phenomenal world. The methods of religion, both in its individual and collective dimension, which include the study of religious scriptures along with practices of prayer, reflection, and group deliberation, allow humanity to gain insights into the spiritual aspects of existence, insights that can be applied toward the betterment of the human condition. Rigid and dogmatic interpretations of religious traditions have led to superstition, blind imitation, and at times conflict, yet this should not lead to a wholesale rejection of religion. After all, science too has been abused and corrupted, yet few would argue that it should be abandoned. While science and religion are both susceptible to abuse, they are also both indispensable to human progress.

For many participants it has not been difficult to see how, at a conceptual level, science and religion are complementary. Through science we explore the social and physical aspects of reality. Through religion we learn about spiritual principles that are expressions of the laws of material and spiritual existence and are built into the very structure of the universe. Religion, at its best, reveals to us principles that are neither inventions of the human mind nor social conventions, but insights into reality. The principle of unity, for example, that is revealed to us through religious writings, speaks of a truth about how

the world is organized. Science helps us apply these principles to the investigation of the social reality in which we are immersed.

Conversations among participants in the discourse in India have clearly emphasized the importance of applying spiritual principles to development. Development will not fulfill its promise of bringing prosperity to large populations if it continues to neglect the spiritual dimension of life. But this initial conversation in which hundreds of people have participated on different occasions opens up new questions that now have to be answered through research, action, reflection, and consultation. Most people have a general understanding of spiritual principles and qualities at the individual level, but what do these principles mean at the organizational and social level? Most people, for example, can establish close bonds of friendship with like-minded people with whom they have things in common. But what does it mean to now feel united with people one does not know and to create structures that are based on unity? Again, at the individual level we have an understanding of what it means to be truthful. But what are the implications of truthfulness for a development organization? Similarly, people might try to be just in their individual lives. Yet how can justice as a spiritual principle be brought into the picture to make the work of development organizations more effective? What structures are needed for justice to have an operational expression? A similar set of questions can be asked about the effort to apply cooperation instead of competition within an organization.

India

Even as answers to these questions are being sought, a further set of questions with regard to the methodology to be used will have to be addressed: How does one develop the language to describe the changes that occur as a result of the application of these principles? How is knowledge generated in this process? How does

one systematize one's learning about the way these principles are applied and about the effects they have? What are the indicators that can show how change is happening?

India

Development

A general disenchantment with the existing materialistic conception of development was clear among the participants in the discourse. Most of the participants questioned the logic of measuring human development with narrow, economic parameters where the whole wealth of humanity's cultural, social and spiritual endowments are interpreted instrumentally either as serving some broader economic purpose or as irrelevant leftovers from the pre-modern past. It was clear to most that the beginning of an alternative conception of development lies in acknowledging the need to integrate the spiritual dimension into the development process.

The condescension with which much of development theory and policy regards the poor was the focus of critical comment from many. In the words of one development practitioner, "If the poor were as poor as we think them to be, they would have been dead long ago. The reason they survive is because they have many more resources than we think they have and it's not only material resources. . .it's the social resources, the cultural resources, their intellectual resources, and more than anything else, their spiritual resources."

Most participants in the discourse remained critical of the claim that economic liberalization and globalization would lead to the nation's prosperity. On the contrary, one participant pointed out that these trends have exacerbated existing disparities between the

rich and the poor, and vast segments of the population remain excluded from the benefits.

Participants agreed that real change would require a transformation of human consciousness in which the oneness of the human family becomes a profound conviction. Once this new mindset is in place, it naturally leads to the creation of a sense of trusteeship among individual members of society for the well-being of each other, of society as a whole and beyond that for all of the earth's natural resources.

India

What many in the field have learned is that development is a slow, long-term process that allows for no short-cuts. "Empowerment does not happen in a one or two year project," pointed out one participant. Knowledge cannot be transferred from experts to the "beneficiaries" of development schemes. Individuals have to be helped to learn on their own and in the process use their own capacities and resources to grow.

Participants expressed the need for a better understanding of the relationship between science, religion and development. Some felt that there was need for more research to establish the compatibility of science and religion. This could be done through demonstrating the scientific basis of religious injunctions. Another suggestion was to undertake research on development projects initiated by religious groups and to conduct an audit of development projects based on religious values.

An idea of what a development organization that incorporated the ideas of the discourse would look like was offered in a presentation during the Colloquium. The organization concerned was the Colombia-based Fundación para la Aplicación y Enseñanza de las Ciencias (FUNDAEC).

From its inception, FUNDAEC was careful not to adopt the prevalent materialistic framework of development. One of the most important elements of its conceptual framework had to do with a conception of the human being that took into account both the spiritual capacities and material needs manifested in each person. The challenges at both the individual and collective levels are to learn to overcome the limitations imposed by humanity's animal heritage, to control the appetites of the body and to strive to develop the qualities of the higher nature. The belief in the essential nobility of the human being was to become the guiding principle of the organization. While this was a religious decision, it was to be realized through the use of the methods of science.

The firm belief in the spiritual potentialities latent in humanity helped FUNDAEC move away from a materialistic worldview that puts economic activity at the heart of human life. Instead the generation, application, and diffusion of knowledge was seen to be the process central to human existence. By rejecting the common notion that "modern scientific knowledge" could be produced exclusively in universities and specialized centers in the West or their replicas in the rest of the world, it focused on building institutional capacity at the grassroots of society to generate knowledge in areas where the social and natural sciences need to come together to solve the problems of specific populations.

One of FUNDAEC's greatest accomplishments, an outcome of years of action and reflection in the field of development, is an educational content and methodology that focuses on the two-fold purpose of helping students take control of their intellectual and spiritual growth and enabling them to contribute to the transformation of society. Its curricula seek to integrate knowledge from different disciplines to help students develop a profound understanding of reality. It aims at developing the noble qualities of the

human soul, and the scientific, artistic, technical, social, moral and spiritual capabilities that will allow individuals to pursue their twofold moral purpose according to the exigencies of each stage of their life.

India

Conclusion

Many valuable questions have been raised in these last ten years on the means and implications of adopting an approach to development that draws upon both science and religion as systems of knowledge and practice. Answers to these questions will have to be sought even as the knowledge generated so far is systematically built upon and existing achievements in carrying the discourse forward are consolidated. The action research project will remain an area in which the Institute and participating organizations will continue to generate learning about applying spiritual principles and scientific methods in development practice.

In addition to this, the Institute found that in order to enrich the discourse on science, religion and development, and to understand its broader implications, it is important to now utilize the conceptual framework of science and religion in other discourses related to prosperity such as economic activity, governance, education and technology. Bringing about positive social change will, eventually, require widened and deepened engagement in these different discourses that are interconnected and that work to influence each other.



Brazil

In late 2001, when the Institute for Studies in Global Prosperity introduced the discourse on science, religion and development to Brazil, there could have been little doubt about the appositeness of the theme to the setting. This country, the largest in Latin America, has a wealth of natural resources that, in its richness and diversity, mirrors the equally vibrant composition of its multiracial and multilingual populace.

Brazil is also a nation at an important juncture in its destiny. While the global media hails Brazil's emergence as an economic power, the nation itself grapples with formidable challenges such as the alarming rise in crime, urban poverty, among the highest levels of disparity between the rich and poor in the world, racism, and the rapid depletion of its natural resources.

Both science and religion have become intrinsic to the nation's identity and culture. When Brazil was proclaimed a republic in 1889 after the monarchy was deposed in a military coup d'état, the new State sought to run on the highest scientific principles.

Science was seen to hold the key to the well-being and prosperity of the Brazilian people. At the same time, Brazil continued to be a nation with a deeply religious population. Its unique characteristics, its particular challenges, and its historical background have created conditions germane to the growth of a discourse on science, religion and development.

Brazil

A Discourse Takes Shape

The discourse on science, religion and development was initiated in Brazil with the introduction of the Institute's concept paper, *Science, Religion and Development: Some Initial Considerations* and a complementary paper titled *Some Thoughts on the Future of Brazilian Society* prepared by Fundación para la Aplicación y Enseñanza de las Ciencias (FUNDAEC), one of the Institute's collaborators that has sought, for the past thirty years, to apply insights from both science and religion to development processes in Colombia. In this paper FUNDAEC offers some of its own learning for consideration to Brazilian intellectuals who are contributing in diverse ways to the advancement of their country.

The paper begins by making reference to the way FUNDAEC has conceived of its own efforts in terms of a dual responsibility—to strive to bring prosperity to the people of Colombia and to assist the Colombian people to make their contribution to the well-being of the global community, all along the path of the unfoldment of an ever-advancing world civilization. For Brazilian society to move towards the achievement of these two goals, according to FUNDAEC, its intellectuals and social actors will have to focus on building the capacities of the people of Brazil so that they can become the protagonists of their own development. Based on its experience in Colombia, then, FUNDAEC states that such empowerment can only be achieved through the use of

knowledge that draws upon both science and religion. The paper then goes on to discuss some of the false notions that distort the way science, religion and development are understood as concepts in present day society. While providing a new understanding of each of these concepts, the paper makes a few practical proposals for drawing upon science and religion in transforming Brazilian society in specific areas such as education, family life, economic activity and the use of technology.

Over the course of several meetings and seminars, the two papers were discussed by individuals representing various segments of the development field in Brazil. In the process, the need for a better understanding of science and religion, as two complementary sources of knowledge and insight for development efforts, became clear to those who participated. A group that included policy-makers, social activists, academicians and development practitioners then started a more systematic exploration of the theme. Their discussions focused specifically on the implications of this new understanding for specific issues of concern to the Brazilian people, such as racism, the degradation of the environment, the huge disparities between the rich and the poor, the breakdown of social institutions, the gradual disappearance of traditional knowledge systems due to neglect, and the need to revamp the education system. The results of these deliberations were brought together in a series of papers which were eventually published in a book titled *Ciencia, Religiao e Desenvolvimento: Perspectivas Para O Brasil (Science, Religion and Development: Perspectives for Brazil)*.

At the same time, in response to a specific suggestion in FUNDAEC's paper, efforts were made to establish institutions at the level of local communities called Centers of Excellence where the capacity of the population of a given region to take charge of its own development could be built. These were envisaged as

institutions that focused on ensuring that programs launched by the government were implemented in an integral manner, that services and goods were provided to the population of the region in a way that empowered individuals and encouraged their spirit of initiative, and that, in devising programs for a population, the material and spiritual aspirations of the community were both acknowledged. A first step was taken by setting up a few centers that, to start with, aimed at empowering the young people of a community by helping them exercise their rights as citizens more conscientiously and effectively.

While the discourse was being enriched by such concrete initiatives, the associated discussions and reflections continued to attract an ever-increasing number of people. Many participants started to use websites and blogs as the means for contributing their thoughts and insights. Over time, the discourse started to extend beyond the field of development as people began to explore the implications of drawing on the knowledge systems of science and religion in areas such as governance, education, gender equality and human rights. In the area of human rights, for example, some organizations came together and created a Forum on Human Rights Education where the subject was approached in the light of experience with the discourse on science, religion, and development.

Basic Concepts

Brazil is a country that has historically made great contributions to the field of education for development, through decades of experience in raising consciousness and building capacity for social action in large populations. By highlighting their own national experience, Brazilian participants in this emerging global discourse have been able to illustrate how spiritual principles can guide

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people from different ethnic and cultural backgrounds and religious paths to take positive steps towards their own development. At the same time, by delving deep into the historical context of the development of science and religion as systems of knowledge and practice, the participants from Brazil have come up with new insights and raised new questions about the meaning of these two knowledge systems and the ways in which they can work together in the pursuit of development.

Science

In their deliberations on science, its relationship with religion, and the role it has come to assume in modern society, participants in the discourse referred to some of the historical events they considered relevant to the development of science in the West. In these discussions they repeatedly mentioned the period of the Enlightenment as both the beginning of the true development of modern science and the separation of science from religion. Participants noted that the idea that science and religion are distinct and totally incompatible with each other—a belief that underlies both modern philosophy and science—emerged as a reaction by the philosophers of the Enlightenment to the suppression of free thought and the persecution of great scientists by the Church at that time. Those philosophers sought, they reiterated, to create an alternative society where reason and rationality would guide the functioning of the State, where religion would have no public role to play, and where the influence of the Church would be greatly curtailed. In such a society, constructed on the basis of a secular worldview, the human being, rather than God, was placed at the center of the universe and material aspects of reality gradually came to be considered the essence of reality. Science, then, was to be the tool that would free people from ignorance and lead humanity to prosperity and justice. Its purpose and practice be-

came thus implicated in the much broader cultural and political mission of creating a fiercely non-religious society.

Many of the participants noted that, in their rigid adherence to a materialistic conception of reality, the intellectuals who grew out of the tradition of the Enlightenment gradually became as dogmatic as those religious authorities whom they so fervently denounced. Science now had its own set of dogmas. Not unlike the fanatics of religion, modern scientists were expected to make absolute pronouncements on the nature of reality. Any phenomenon that could not be explained by science was dismissed as either non-existent or false. According to the participants, the rise of deterministic theories in science that sought to explain everything from human nature to the functioning of the economy were examples of science being called upon to offer absolute answers to those existential questions that had previously belonged to the realm of religion alone.

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Participants, however, proposed that the scope of true science was much more modest and there is much of reality that falls outside its purview. For example, they observed that science can neither prove nor disprove the existence of spiritual reality and should, therefore, not be called upon to do so. True science, according to them, is not dogmatic. It is not for the scientist to pronounce the last word on reality. Rather, like true religion, the purpose of science is to ask the right questions and enable the systematic investigation of reality.

Participants then commented on how such dogmatism in the practice of science was evident in the way scientific prescriptions and technological innovations were implemented in Brazil without any consideration of their environmental, social, or moral consequences. In the quest for technological advancement, the

non-renewable natural resources of Brazil were being rapidly depleted and the physical-chemical balance of the environment gravely upset. In the quest for industrialization and modernization, and the accompanying neglect of other aspects of human life, the fabric of society was being allowed to fray. To create an individual who would be an efficient producer and consumer of goods, they said, the education system was ignoring aspects of older value systems within Brazilian society such as reciprocity, care, decency and mutual trust and instead was promoting a culture where the individual is taught to think of herself or himself as a bundle of wants and needs.

According to the participants, their attachment to the idea that reality consists of only that which is tangible and quantifiable had made scientists and policy makers ignore all non-material considerations and had impaired their ability to learn. A true scientist, according to the participants, would approach the acquisition of knowledge with a posture of humility and learning. This, they added, had become even more apparent with new scientific findings that have cast doubt on positivistic assertions that science should dismiss anything that cannot be perceived by the senses or otherwise measured.

Many participants further suggested that scientific activity cannot be an end in itself. To be a positive social force, science has to function within a normative framework that defines the purpose of acquiring knowledge and the way it should be used. Such a framework, it was pointed out, was provided by religion.

In general, participants agreed that there were many questions that still remained to be answered: If we believe that the scope of science does not exceed the limits of the material world, then what are the characteristics of the system of knowledge and prac-

tice called religion, which is expected to explore spiritual aspects of reality? How can we make sure that the two systems are in harmony with one another? In what ways can the two knowledge systems work with each other? How can insights from religion shed light on our understanding of the physical world? To what extent can the methods of science help us understand certain aspects of spiritual reality? Such questions led the participants to explore some of the characteristics of religion as a system of knowledge and practice.

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Religion

Discussions on religion, like those on science, began with more analysis of the Enlightenment—the period in which, according to the participants, religion was gradually dismissed from the public domain and its role in the progress of humankind denied. Religion was said to have belonged to the past. Its practice was reduced to a question of personal choice and it was to have no role in the organization or functioning of society. Although most participants thought that the Enlightenment had served to free human consciousness from the shackles of religious orthodoxy and fanaticism, they also believed that rejecting religion altogether took away a vital force that civilized human character, that provided a sense of meaning and direction, and that held society together. The effects of its absence, they noted, can be seen in the alienation and moral vacuity that blights individual lives, in the rapid weakening of social bonds, and in the breakdown of social institutions.

Yet, participants noted that, in spite of the spread of an Enlightenment-inspired modernity in Brazil, religion continues to play a major role in this society. A testament to its strength can be found in the formidable presence of the Catholic Church. Both

in terms of its reach and in the loyalty that it inspires, the Church exercises a moral influence that far exceeds anything that the State can hope to achieve. This influence is the result of its involvement in the lives of the people. Examples of social and educational projects undertaken by the Church and other religious institutions are manifold. In some places, religious institutions have created systems for wealth distribution and financial security for the unemployed or disabled. The hungry are fed, children with working parents are taken care of, family disputes are resolved, and women facing domestic violence are assisted.

In spite of all these efforts, participants noted, there are unfortunately many who seek to harness humanity's latent religiosity to further their own ends. There are those who are politicizing religion. Narrow and distorted interpretations of scripture are being used to bestow moral legitimacy on brazen attempts to secure political power and to seek control over the lives and the minds of innocent people. Using the rhetoric of victimhood to rouse a people's sense of self-righteousness and to fan the flames of hate, individuals and groups are being goaded on to fight wars and to hate each other with great passion. Others have found in the repressed spiritual yearnings of mankind a lucrative business opportunity. As a result, spirituality has become another one of the many "services" that can be bought in the marketplace, from an array of cult leaders, godmen, and gurus, each with their own unique prescription for transcendence or salvation.

How can humanity's religious impulse be protected from exploitation and guided towards the betterment of society? Who can defend religion from the corrupting influence of personal gain, self interest, and ambition? Who will ensure that the man-made dogma and rituals that make religion meaningless are distinguished from the spiritual principles and qualities that lay at its core—

principles such as unity, justice and equality, and qualities such as compassion, tolerance, reliability, generosity, humility, courage and the willingness to sacrifice for the common welfare? Such questions led many of the discussions to “religious authority”, a concept that needs to be reconciled with the democratic views that are being propagated in our modern society. Participants stated that most religious communities continue to function in the mold defined by their history and authoritative scripture as interpreted by the clergy. Yet the world of today is far removed from the conditions that existed at the time many ancient scriptures, and the institution of the clergy, came into existence. The relationship of the individual to authority has changed. The people of the world want to take their destiny into their own hands; to actively participate in the decision-making processes of society; to use science and technology to solve their everyday problems. They want to become active agents and full participants in their own processes of development. Old conceptions of authority, obviously, do not respond to the needs of our age. To play an active role in development, religion will have to set aside some of its traditional interpretations of authority and include participatory practices in its decision-making processes.

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One of the main challenges associated with the constructive engagement with religion as a system of knowledge and practice, according to the Brazilian participants, is to introduce change into religion in an orderly form. But how can religions become more amenable to questioning and inquiry without opening the door to the kind of power struggles, sectarian disputes and bitter contention that have already introduced so many divisions in the ranks of their believers in the past? How can authorities within religion adopt a humble posture of learning with regard to the meaning and interpretation of scripture without compromising the fundamental integrity of the revealed text? How can reason

and logic be used without undermining the spiritual nature of the reality that is being referred to? Answers to many of these questions need to be explored, in action, by those who are interested in harmonizing religion with science for the betterment of society.

Brazil

Development

A dialogue between science and religion that focuses on the advancement of civilization is not new in Brazil. Since the 1950s, proponents of Liberation Theology have tried to integrate Marxism with Catholic theology in their efforts to fulfill the Christian mission of bringing justice to the poor and the oppressed. Among other things, these individuals have facilitated action-oriented studies and discussions of the Bible, through the formation of thousands of groups identified as Christian base communities.

At the same time, many popular educational movements have emerged in Brazil that influence thought at the global level. In this context, the participants in the discourse referred on many occasions to the great achievements of Paolo Freire—and his philosophy of critical consciousness—in helping groups of people reach an in-depth understanding of the world through exposure to the social and political contradictions that surround them.

Movements influenced by both the theology of liberation and Freirean pedagogy, the participants noted, have been relatively effective in their efforts to interpret the meaning of religious faith in the context of living in a world of oppression, war, poverty, inequality and environmental degradation and seeking to change it with compassion, truthfulness and courage. They have been partially successful in discovering the methods that allow individuals and groups to take effective action to transform their surroundings. Some participants, however, felt that even though

these efforts have raised consciousness and provided a heartening testimony to the efficacy of insights gained from religious scriptures in addressing social and economic problems, they have fallen short of providing the masses of humanity with an appropriate scientific education—one that allows them to resist the forces of disintegration, to systematically build strong communities, and to pave their own path of development.

Many participants expressed their concern regarding the lack of skills in children and youth to analyze critically the enormous quantity of disjointed information with which they are being bombarded. Some also saw this as a sign of the inability in the larger population to analyze problems systematically, to make correct moral, economic, and technological decisions, and to take effective action to transform their surroundings.

Traditional sources of guidance such as religious institutions, the family, and schools, the participants mentioned, are at the same time becoming increasingly unpopular and therefore ineffective in providing the younger generations with the tools they need to navigate the moral minefields of present-day society. Guidance, participants reiterated, has to come from educational institutions. Teachers, they claimed, have to assume the moral position that they have been assigned. “Schools need teachers who are willing to nurture their students with the same love and care as do gardeners with their plants,” mentioned one participant. Further, another participant pointed out that moral education has to be integrated in all subjects such as language and economics and not treated as a separate subject to be taught alongside others. “Otherwise,” he warned, “we end up reinforcing the illusion that morality is something distinct from one’s professional life.”

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Another question that often came up in relation to moral education was whether religion had a role to play in moral instruction or whether it was better to adopt “secular ethics”. On this, many participants emphasized that it had been both historically and experientially proven that religion remained irreplaceable as a source of motivation for moral transformation.

One of the biggest challenges facing the education system in Brazil, participants noted, is that society is becoming more materialistic every day. The purpose of education has come to be regarded more and more as the preparation of individuals to be competitive in the job market. Consequently, certain fields of study are cherished because they lead to high-paying jobs while others that are less remunerative but socially crucial—such as education, social work and agriculture—are neglected. Money, and not service, is what motivates people in deciding which educational program to choose. Many emphasized the fact that such a system cultivates self-centeredness in children from an early age. As a result, one participant noted, students enter society ill-prepared to build strong relationships of reciprocity and care on which the strength of the social fabric depends, or to make the kind of sacrifices that such a process would entail. To counter this, participants suggested that, both in terms of content and pedagogy, emphasis be placed on cultivating values such as solidarity, fellowship and respect for other cultures and beliefs.

An important area of concern for many participants was the need for children to develop the capacity to work in groups and to be able to meet the growing need, in a globalizing world, to engage with people of different cultures, beliefs and social backgrounds. This issue was often raised in the context of the need to find ways to address the problems of open and hidden racial discrimination against those of African or indigenous origins in Brazil. A power-

ful way of countering such attitudes, participants felt, would be to incorporate the spiritual principles of the oneness of humanity and the nobility of the human being into the educational curriculum from the earliest stages. Through this, a new generation of Brazilians will be raised conscious of the principle of unity in diversity and of the need to preserve the cultural richness of Brazilian society.

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Participants also expressed concern over the superficiality that had increasingly come to characterize the approach to education in Brazil. In the opinion of one participant, the assumptions underlying the present approach to education are that children are incapable of profound thinking or generous behavior. The content and methods of education are therefore increasingly being watered down to meet the student's perceived need for fun and pleasure. Such an approach, in her view, has its seed in a materialistic conception of the human being that sees the individual as a bundle of needs and wants that must be constantly addressed. It is not founded on the spiritual view that the human being is fundamentally noble. The influence of such a worldview can also be seen in the design of social systems that presume that the individual is naturally inclined towards constant recreation, self-indulgence and pleasure and is averse to discipline, responsibility and hardship.

Why has a country such as Brazil—that has given rise to one of the most advanced alternatives to the “banking” model of education, that has managed to find ways to raise consciousness, that has brought the social dimension of life into education, and that has criticized many of the premises upon which conventional education is based—come to have such problems itself?

The route out of the current crisis, according to some of the participants, lies in gaining a better understanding of science and religion and in making appropriate use of both in developing appropriate educational programs that take into account both the spiritual and the material dimensions of existence, that emphasize transformation, and that build the spiritual and intellectual capabilities of the student to transform the world.

Conclusion

For most participants, understanding what it means to promote a discourse on science, religion, and development has itself been a learning process. How is a discourse promoted? How does one bring about change in the thoughts of people without sermonizing or talking down to them? How does one prepare individuals and groups to resist the robust forces of materialism that are at work, and steadily work for the transformation of society? By engaging in the diverse activities involved in promoting the discourse, by moving ahead on various fronts, by engaging with an ever-growing group of people, participants have gradually come to appreciate some of the deeper dynamics involved in transformation. Bringing about change and going through the learning that it necessitates, as some participants stated, is a complex and difficult process. To set out on a new path requires courage—not an arrogant courage that demands swift and radical action, but one that is tempered with humility and wisdom; where the dynamics of individual and social transformation are understood; where it is realized that growth and change are organic, that they are gradual and slow, and that they involve constant action, reflection and study; and that, in pursuing such transformation, one would be faced with a constant dialectic between crisis and victory, between facing setbacks and gaining new ground.



Uganda

Efforts to promote the discourse on science, religion and development in Uganda began in 2001 in response to the growing recognition in different quarters of Ugandan society, including the highest levels of government, of a need to re-examine the role of science and religion in building a prosperous society. Convulsed by political and civil turmoil for decades following its independence in 1962, the hopes and aspirations of the government and people of Uganda have been focused on reaping the promised fruits of development, particularly in the years of relative peace since the late 1980s. In areas such as economics, public health, agriculture, technology, education, governance, and the advancement of women, Ugandans have poured their energies into development projects that they hope will lead to the betterment of their society. From programs of structural adjustment, technical assistance, and market liberalization directed from the top to a wide array of grassroots initiatives, the results of development in Uganda have been—despite high hopes and good intentions—limited and uneven. This has caused many to question

whether the current path can possibly lead to enduring change and prosperity for the generality of the country's people.

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For Ugandans, many of whom hold strong convictions about the spiritual values that should govern society and relations between people, the inadequacies of the social theories underpinning development practice, the fragmentation of thought perpetuated by the modern education system, and the mounting disparities and social ills they continue to witness have been the cause of deep-seated frustration and unease.

A Discourse Takes Shape

Against this backdrop, a series of meetings and seminars were held in 2002 and 2003 on the theme of science, religion and development. These were attended by an extraordinarily diverse group drawn from a wide spectrum of those concerned with development in Uganda. Along with the representatives of non-governmental organizations, civil society groups, religious organizations, academic institutions, and the media there were also scientists, social activists, entrepreneurs, teachers, professors, students, government ministers, lawyers, farmers, village chiefs and many others who were simply concerned about the future of their society. What brought these individuals and organizations from diverse backgrounds together was, in part, the profound way in which the insights contained in the concept paper *Science, Religion and Development: Some Initial Considerations* resonated with them. Many commented that the paper opened new possibilities for exploring how social change might be achieved in Uganda. Although questions remained, the paper seemed to rekindle optimism for a number of participants about the prospects of a just and ethical transformation of their society. The experiences that they shared and the ideas that they contributed during these seminars

constituted the first stirrings in the evolution of a discourse on science, religion and development in the country.

In order to ensure that their deliberations were focused and structured, participants in the discourse decided from early on to focus their reflections on the themes addressed in the concept paper they studied together and to explore them in the Ugandan context. To these four themes—education, economic activity and organization, technological advancement, governance and justice—were added a fifth topic on health, culture and environmental concerns. To draw upon the rich experience and diverse perspectives of those present, participants were divided into five working groups with each group focusing on a particular theme. The objective was to eventually find ways to influence broader policies on these issues.

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Over the years, the working groups sought to tackle a number of the assumptions underpinning development efforts—particularly in the context of certain existing government initiatives such as the Ugandan government’s Poverty Eradication Action Plan and its Universal Primary Education program. As the ideas they gleaned from discussion groups at the various national and regional seminars impacted their thinking, participants observed that earlier patterns of thought were being replaced, bringing about changes in their professional and domestic lives. Many commented that the influence of the ideas from these discussions was noticeably reflected in public discourses on various developmental themes, such as moral education and the preservation of the environment. Meanwhile, in 2006, a film entitled *Opening a Space: the Discourse on Science, Religion and Development in Uganda* was prepared regarding the advancement of the discourse in the country.

At present, the discourse has moved beyond simply expanding to embrace new individuals and organizations. In addition to the theme-based reflections of the working groups, there is now a growing realization that these collective explorations of the participants need to be taken to a new level. In this sense, the participants in the discourse in Uganda find themselves in a position not unlike the one faced by their counterparts in India just before their endeavors entered a new phase with the launching of an action research project. As the participants in Uganda ponder on the next steps to take, their deliberations will thus be guided as much by the assessment of their strengths, of the opportunities before them, and of the learning that needs to be acquired, as by the experiences of other countries in carrying the discourse forward.

Basic Concepts

Drawing on instances from their own experiences in the field of development and more generally from the history of the Ugandan people, the participants in the discourse in Uganda sought to explore the role that science and religion play in the advancement of civilization. Understandably, such an exercise often raised more questions than it provided answers. How, it would often be asked, can we build the capacity of people at the community level to participate in the generation and application of knowledge? How does one nurture the scientific ability of the masses? How is technology applied in a way that does not disempower its users? How can religion be used as a source of social good? What does it mean for a development program to be implemented in a truly “participatory” manner? It was in seeking to find answers to questions such as these that participants found the opportunity to simultaneously broaden and sharpen their own understanding of each of the concepts of science, religion and development.

Science

On the concept of science, reference was often made to the way that it is popularly perceived as a highly specialized system of knowledge to which only a few highly educated people have access. The laboratory is considered to be the domain where such knowledge is generated and applied. Science, the participants felt, is not conceived of as a system of knowledge and practice that the masses can use for the transformation of their own lives and environments. The predominance of this limited conception of science, they thought, precluded any serious consideration of the enormous potential for social transformation that could result from building the scientific capacity of the Ugandan people. Participants then discussed in some detail the causes for such a narrow conception of science and offered various suggestions for ways in which change could be brought about.

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Some sought to trace the origins of the perception that science is incomprehensible, elitist and inaccessible to the history of Uganda's modernization. In the eyes of most people, they explained, the introduction of modern amenities and infrastructure was responsible for bringing about significant and widespread changes to the material conditions of the world around them. The participants commented that for most of the people, changes that they could neither control nor understand could only be attributed to the almost "magical" powers of science. Others pointed out that the understanding of science as something remote from and inaccessible to ordinary people had been exacerbated in recent decades by the introduction into Ugandan markets of gadgets featuring ever-more sophisticated technologies that were developed for consumers in economically-rich countries. Since only the rich in Uganda could afford these gadgets, people naturally began to associate technology with wealth and status.

A few commented on the role that Uganda's colonial past has had to play in the creation of popular notions about science. According to them, when the colonizers brought modern science and technology to Uganda, they introduced it as an inseparable element of their civilization and culture. The Ugandan people's culture and traditions were projected as regressive, primitive and superstitious whereas everything the colonizers thought or did was lauded as progressive and scientific. Thus, by a conceptual sleight of hand, scientific thought became inextricably bound with the values and the western way of life, amplifying the perception of science as alien.

To counter these perceptions, participants emphasized the universality of science. Science, according to them, begins with the innate desire within every human being to explore the mysteries of the universe and to find answers for the reasons and causes of things. It is the means through which humanity systematically investigates material and social reality. Building scientific capacity, then, is about developing the qualities and skills needed for such investigation. In the past, they noted, people responded to the impulse to know reality by providing explanations for phenomena—explanations which would today be considered religious in nature. Yet, even though many of these explanations would probably not stand the test of modern science, participants insisted that one could not deny that what people had then was their own form of science.

Similarly, with regard to technology, many pointed out that it, along with science, has been an aspect of every culture. Without both science and technology, no culture could have survived or grown. By developing different technologies people were able to improve their living conditions and withstand threats from the environment. Technologies were developed

by people to facilitate every one of their diverse activities—from agriculture, to the preservation of health; from the planning of towns and cities to the practice of arts and crafts. If science seeks to understand why things happen the way they do, technology, in their view, has to do with the knowledge of how things are done.

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On the whole, the participants felt that the challenge was to conceive of science as one of the two knowledge systems (the other being religion) that builds the capacity of individuals and communities to transform themselves and their society. They clarified that this does not require all people to become experts in a particular scientific discipline. Rather it means that every individual must have a certain level of understanding of the different branches of science and a conversance with the scientific method of investigation in order to engage in the systematic and structured reflection and action required to contribute to the advancement of civilization.

Various suggestions were made regarding possible steps that could be taken to build the scientific capacity of people. One of them was to create a range of institutions for the generation and application of knowledge—from highly sophisticated ones where Ugandan scientists would, along with their peers in other countries, pursue study at the frontiers of scientific research to local institutions at the grassroots of society that engage in building the scientific capacity of the people. Another suggestion was to initiate much-needed changes in the way science is taught in schools. At present, participants noted, there is a heavy emphasis on imparting information and memorizing facts and very little on teaching concepts. This makes scientific knowledge seem inaccessible and fragmented.

Suggestions were also offered for ensuring that technology is adopted in a manner that is suited to the needs and conditions of the people. Historically, participants felt, modern technology has been brought to people in a way that has not given them any control over the changes it effects in their lives. In such a setting, they concluded, people need to be empowered with scientific ability in order to be able to decide which technology to adopt, how to adopt it and how much of it to adopt for themselves and their communities. In making these decisions, they felt, care also has to be taken not to ignore the value of those forms of technology that have evolved among the Ugandan people over many centuries and that constitute their own traditional knowledge-base. While modern technology might bring the benefits of efficiency and higher productivity, these traditional technologies found ways of doing things that took into account the natural environment of the given population and their religious beliefs, cultural practices and social relationships.

In seeking to bring about these changes, participants were faced with a set of questions concerning the scientific and technological culture of the Ugandan people. Nurturing a process through which large numbers of people can build their scientific capacity and apply their newly acquired capabilities to the challenges of their everyday lives requires the creation of a suitable cultural environment. There are certain attitudes, convictions, skills and habits that influence the daily interactions of both individuals and organizations in relation to science and technology. How are these elements of the culture of an entire population transformed? In what ways, it must be asked, can education and the media more effectively raise the scientific culture of a population? Such an analysis, while acknowledging the great influence of these systems in imparting knowledge and skills and in shaping attitudes, must also be based on a sober assessment of the role that the media

and the education system have historically played in perpetuating many of the attitudes, conceptions and habits that have hindered people from developing a sound understanding of science and of its application to their lives. With regard to education, the interventions that need to be made at the levels of pedagogy and curriculum would certainly need to be explored in this context. The role of the media is far more complex. While at one level it is possible to analyze the impact of media content—both in its explicit and implicit forms—on public attitudes to science, at a more profound level there is the question of the impact of the values embedded in the various technologies through which the content is accessed. Do these values, for example, facilitate or inhibit the independent exploration of reality? What effects do they have on the development of the mental ability to pay attention to details while reality is simultaneously being observed in its broader context? Do they foster a desire to strive for accuracy and precision?

Religion

In their discussions on religion, participants enthusiastically sought to explore its potential for the transformation of the individual and society in Uganda. The people of Uganda, they mentioned, were deeply religious and a testimony to this was the country's motto, "For God and my country". Given these conditions, many felt that religion must have already played a constructive role in shaping positive attitudes and approaches related to different arenas of life. In their efforts to understand these influences and ways in which they can be enhanced, participants focused on a small number of areas including economic activity.

Mainstream economic theory characterizes the human being as a self-interested economic agent or a politicized social actor seeking

power and advantage. Participants noted, however, that from the perspective of religion, the human being has a spiritual nature which is the source of such motivations as showing forth love, seeking truth, and desiring to serve others. Therefore, if one were to approach economics from a spiritual perspective, one would uphold the values of cooperation, reciprocity and concern for others rather than competition and the pursuit of self-interest. Such behavior in turn, it was observed, would lead to a change in the way economic activity is conceived. Rather than being understood in terms of a relentless quest for unlimited profits, economics would come to be seen as an expression of mutuality and interdependence and as a set of practices that increases reciprocity amongst people. Elaborating further on this vision, they explained that from this perspective social and economic interactions would also be understood in terms of their contribution to the creation and development of social relationships. In this way, they felt, economic activity will be most dynamic and effective in creating prosperity when those involved ensure that their actions yield positive results for all of the participants in economic exchange.

Relating this vision of economic activity inspired by spiritual principles to the context of Uganda, participants noted that there is ample evidence of reciprocity and mutuality in the economic behavior of the people. On repeated occasions mention was made of the important African religious concept that what makes people human are the bonds that they share with other human beings. The influence of this belief on the thinking of the people and its role in establishing strong patterns of cooperation and reciprocity in their economic and social behavior received much attention. "A person who believes in such a concept," explained one participant, "is generous and does not feel threatened by the success of others. Their compassion and sense of connectedness to others

comes from knowing that they are part of a greater whole.” With this perspective, participants questioned the implicit assumption in current economic thinking that productive activity linked to social relations is primitive, while productive activity severed from social relations, or so imagined, is progressive.

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Participants further felt that the social embeddedness of economic relations has long been recognized in Uganda where institutions that draw people into groups and place the highest possible value on “wealth in people” have existed for centuries and strong patterns of economic reciprocity have endured in the face of turbulent changes in society. Despite war and the breakdown of commercial activity, it was observed, Uganda experienced very little starvation in the 1970s and 1980s, in part because people fed each other, rural farmers sent food to their relatives in the cities, and neighbors shared whatever they had. In the course of discussions, many recalled the networks of reciprocity which characterized rural areas and rural to urban interaction in the recent past. The loan of land, the gifts of beans and ghee, and the harvest celebrations which united communities were examples that were shared of alternative economic principles at work in Ugandan society.

Elaborating on how such patterns of reciprocity underlie economic interactions, especially in the rural areas, one participant explained that in a village if a person needs help with digging his land or tending to his garden, he can call upon the assistance of his neighbor without having to provide him with monetary compensation. “The thinking,” he offered, “is that the food that comes from this land is not only for you. You are keeping it for all of us. If my children passed by your compound and found you eating, it would be a great crime if you didn’t feed them as well. If at any time I don’t have food, I know I will get it from you because I participated in growing your food.”

Concern was expressed for the urgent need to preserve, revive and promote traditional patterns of behavior. Participants reiterated on different occasions that these patterns face serious threat of extinction from the dominant approach to economic activity that is premised on a materialistic understanding of human nature which conceives of the individual as incorrigibly selfish, driven by a narrow calculation of utility maximization and enslaved by insatiable appetites. Such an approach, the participants observed, already brought Uganda to the position where in the name of economic prosperity poverty has increased even as wealth is being created. Instead, participants felt that an awareness of the importance of reciprocity in economic interactions is something unique that Ugandans and other African societies have to share with the rest of the world.

The participants in the discourse also explored the likelihood that certain religious beliefs that are irrational and superstitious served a useful purpose in the society of the past. Some shared the example of certain African religious beliefs that forbade people from entering certain heavily-wooded areas of the forest for fear of angering the spirits. To the participants, the probable wisdom behind such a belief was readily apparent today. At a time when people were heavily dependent on the natural resources of the forests for their survival, such beliefs helped prevent logging and preserved the natural habitat of those areas.

The example of a religious ceremony that forced enemies to reconcile their differences was also shared. As one participant put it, in the Gulu area of Uganda, which was the scene of considerable ethnic conflict, this ceremony had become an agent of peace and reconciliation. As part of the ceremony, two enemies are brought together and are required to go through a “cleansing” process where they admit their wrongdoings to each

other and ask for forgiveness. Both of them then swear to forget the past. To reinforce their newborn friendship, they are required to carry out various activities together such as performing certain acts in a synchronized manner and drinking together from the same bowl.

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The participants also believed that a less obvious but far more consequential sign of the effect of religion on people's lives could be seen in their resilience in the face of oppression and in their commitment to a moral code even when faced with grave injustices. Participants who were development practitioners by profession observed that religion was a crucial source of motivation and hope for them at times when they faced hardships in their work. As one of them put it, "Even if my efforts are in no way compensated, I have the confidence that God will reward them."

While maintaining that religion has been a source of tremendous social good, many felt that they still had questions to answer with regard to its application in the field of development: Are all religious beliefs that result in some form of good for the society equally valid? What is the touchstone for knowing the validity of a religious belief? How can one tell whether a belief about a spiritual aspect of reality is true or mere superstition? The answer to these questions, some felt, would be found in the field of action and in consultation with the community whereby the significance and application of spiritual principles and values could be identified and validated.

Development

"Uganda has been going through a process of transformation and searching," said a participant from Makerere University. "At all levels of society we are looking for new ways of doing things. And

not only for the sake of new ways, but to meet the real needs in the communities.” His words echo the prevalent mood within Uganda’s development community that sees the need for a revision of both the goals of development and the approaches used in attempting to achieve them. The exclusive focus on economic prosperity has, in the opinion of many, exacerbated social problems. Despite the fact that Uganda has been lauded in the recent past for the growth of its economy, participants felt that the disparities between the rich and poor have actually grown since the 1950s and 1960s. In the opinion of many, as long as development theory and practice continues to focus on the material aspect of human reality, greed and self-interest will always be considered the factors that motivate human behavior. This assumption, in turn, becomes self-fulfilling and leads to the creation of a society where individuals invest all their efforts in accumulating ever greater wealth without a sense of social obligation. The only way to create a just society, participants felt, is to acknowledge the existence of the spiritual dimension of human reality and to channel spiritual impulses, which have for centuries guided human behavior in the path of nobility, principled conduct and altruism, and toward the goal of individual and social advancement. These are the impulses that lead people to sacrifice for the well-being of others, to serve society, to feel compassion, to love and to strive for justice. The goal of development, then, would have to be both material and spiritual prosperity achieved through drawing on the knowledge systems of science and religion.

A number of the participants in the discourse who have been active in the development field for several years shared their concerns about what they perceived as some inconsistencies and misconceptions that persisted among a few of their peers. They reflected on the way that some development agencies position themselves in relation to the people they serve—on the one hand,

they strive to be “participatory” in their approaches and yet, on the other hand, all too often they continue to regard themselves as outsiders in relation to the population they serve. Why, participants asked, reflecting on their own practices, was there such a tendency for development planners, thinkers and practitioners to conceive of themselves and those they serve in terms of “us” and “them”? The result of this, they felt, is that no matter how great the effort to make development programs truly participatory, there is always the inescapable sense that people are being asked to participate in plans and models that they have had no part in creating. Despite ongoing efforts made to change such attitudes and ideas, they still prevail. As a counterpoint to this way of thinking, the participants in the discourse gave much thought to the analogy of society as the human body in which each cell is integrally connected to the other and is essential to the overall healthy functioning of the body, and where the well-being of each is dependent on the well-being of all. Viewed from such a perspective, they felt that development is not something one does for others, and so rejected as untenable a dichotomized view of “us” and “them”.

Participants felt that the reason why truly participatory approaches have not been adopted has to do, in part, with the way the development sector functions and the manner in which development programs are structured and executed. More often than not, participants noted, Ugandans working in the field of development find themselves frustrated by their desire to implement truly participatory programs, in a context in which the changing funding priorities of donors takes precedence over most other considerations. They observed that development agencies keep busy carrying out highly visible but superficial forms of participation; very few seem to be willing to invest the resources of time

and energy needed to foster the underlying attitudes, understanding, and qualities that a participatory approach requires.

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Quoting examples from their own experiences, participants said that development workers who use various participatory tools in their projects are often too overwhelmed by the specific requirements of their own project goals to be able to spend time interacting with the community and engaging in meaningful activities. The development worker remains tied to the deadlines, the deliverables and the stipulations of his particular project. Yet, they pointed out that the building of a relationship of trust with a community is an organic process that takes time and cannot be forced. As one participant put it, “By the time the community is ready to open up to the development worker, his project is over and he is ready with his set of recommendations.” Another problem mentioned by the participants relates to the tendency to view a community and its problems with a pre-determined set of criteria that dictates which aspects of reality will be focused on and which ones will be ignored altogether.

Commenting on what they felt were the requirements of participatory work, participants explained that the development worker must adopt a humble posture of learning and not pretend that he or she has all the solutions. Action that is taken to improve the lives of a given population should be the result of consultation between the development worker and the people themselves. In this, they noted, the role of the development worker is primarily to facilitate the participation of the people in the pursuit of their own development. Those participants in the discourse who had experience with working on such projects said that such facilitation is not easy. Often, the social and cultural codes adhered to by the particular population can work against ensuring the fair participation of all. “For example,” one participant said, “if women

and men are in the same group, the women will not feel free to share their opinions. Similarly, if young people are in the same group with older individuals, they will feel somewhat inhibited in sharing their views.” The development worker, then, has to toe a delicate line between respecting cultural sensibilities and not adopting a relativist position where it is assumed that all cultural practices and values are equally valid, even when they are harming the interests of some.

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Participants felt that combining the knowledge systems of religion and science opens new possibilities in the search for means to empower the poor to take charge of their own development. Particular attention was given to the poor and women in development discourse. With regard to the poor, participants observed that the powerful ideologies that guide much of economic thought and practice in the world today favor the rich. While a consumerist society encourages the rich to immerse themselves deeper in a sea of self indulgence, it absolves them of any feeling of guilt about the plight of the masses of humanity who lack the means for a dignified existence by making it seem that each person is responsible for his or her own position in the world. According to such a perspective, the participants explained, if the poor are poor it is because they are lazy, immoral, irresponsible or inefficient. Through such Social Darwinism, wealth becomes equated with virtue and poverty with vice. The poor are thus doubly oppressed. Not only do they lack the material means for a dignified existence but they are also morally and socially stigmatized. In their opinion, the way to change such perceptions is through acknowledging the spiritual dimension of human reality. Such a perspective enabled people to recognize that the social, cultural and spiritual wealth that the poor possess are the precious resources of society. They pointed out that among those who lack material resources, one often finds strong bonds of mutuality and reciprocity. When

material resources cannot be relied on as a source of security, people nurture and draw upon their social and spiritual resources. The participants felt that when viewed from this perspective, the poor will be greatly valued in development discourse for the social, moral and spiritual contributions they can make towards the advancement of society.

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While acknowledging the aforementioned, participants felt that practical plans must also be made to empower the poor to take charge of their own development by drawing on science and religion. However, they mentioned that efforts to empower the individual would be short-lived unless they were supplemented by simultaneous attempts to transform the social structures and institutions of which the individual forms part. An example was shared of farmers in Northern Uganda who were guided to follow a mixed cropping system. These farmers realized that such a system would be beneficial for them in the long run, yet, being debt-ridden they were in need of immediate money, and, as such, they decided to shift to the exclusive cultivation of *simsim* (sesame)—a product currently in demand in the global market which would therefore fetch a good price. They knew that this decision was not a sound one as it made them vulnerable to fluctuating food prices. Yet, being debt-ridden, they were in need of immediate money. Due to this, they decided to shift to the exclusive cultivation of *simsim* that had a good demand in the global market and that would therefore fetch them a good price. As the participants pointed out, the prevalent economic system forced the farmers to follow patterns of production and supply in the global economy even when it went against their better judgment. A solution to their problem therefore had to include efforts to empower them as individuals, to enable them to uphold principles they felt to be important to the well-being of their community, and to work on

creating alternative economic arrangements so that they were not made victims of market forces.

On the question of ensuring that women and men both participate equally in the life of society, participants once again saw the need for the transformation of the individual and social structures. Gender equality, they felt, had to be followed not as one of the many lines of action that government agencies or development organizations pursue alongside their many other initiatives. Rather, it had to become an underlying consideration in all policy prescriptions. To illustrate the need for such an approach, one participant gave the example of a recent government initiative that advocated home-based care for those suffering from AIDS. This initiative unintentionally transferred the responsibility of caring for the sick on women who were already responsible for taking care of the household and serving as agricultural labor. In the process, it indirectly ended up reinforcing the stereotype that the home was the woman's proper domain. While emphasizing the need to ensure that women are involved in all fields of work, the participants were quick to remind themselves that this was not meant to, in any way, denigrate the work of caring and nurturing that women traditionally perform in the domestic arena. On the contrary, they called upon economists to recognize the value of such work and expressed the hope that the values underpinning it would inform a much broader range of activities.

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Conclusion

Not infrequently did the participants in the discourse on science, religion and development in Uganda pause to ponder on the nature of what they were attempting to do. Here they were, so many individuals from such diverse professional and academic backgrounds, making their contributions in different ways on a

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broad range of issues and yet slowly, deliberately moving forward with promoting the discourse, similar to an organism that grows even as all of its component parts are themselves constantly in a state of change and transformation. From where, some asked, did the participants in the discourse find the confidence and faith to pursue the work? Why did Ugandans respond to the discourse with such enthusiasm? After all, promoting a discourse in society without expending huge sums of money or seeking to lobby in order to influence policy or gain the support of the media was simply unheard of. What urged the participants on was the conviction that this discourse provided valuable insights into the problem of development at a time when other approaches were yielding limited, and sometimes detrimental, results. True, much more needed to be learned about how development programs that incorporate scientific methods and spiritual principles would be conceived and implemented. Yet, they had little doubt about the direction to be taken. As one participant said, “All that we now need to do is persevere—persevere with the confidence that what we are doing is right.”

About the Institute for Studies in Global Prosperity

The Institute for Studies in Global Prosperity (ISGP) is a non-profit organization, dedicated to building capacity in individuals, groups and institutions to contribute to prevalent discourses concerned with the betterment of society.

Drawing on both science and religion as two complementary systems of knowledge and practice, learning environments are created where knowledge and experience can be shared and systematized. Principles, concepts and approaches that are relevant to the advancement of civilization are explored through a process of study, reflection and consultation.

Founded in 1999 - and working in collaboration with the Bahá'í International Community - the Institute also engages in learning about the methods, approaches and instruments which can best be employed to contribute to the discourses of society.





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