

6. KNOWLEDGE AND BELIEF SYSTEMS IN LATIN AMERICA

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The majority of the people in Latin America are so called Mestizos, a mix of Spanish and indigenous origins. The cultures of these populations reflect a combination of their historic roots. Although the European influence often dominates, the indigenous culture plays an important role. Especially in the more isolated and marginalized areas the traditional cosmovisions, knowledge and technologies are still very relevant and influence the community organisations, the notion of time, the relationship of people with Mother Earth, the animals and crops. Traditional leaders perform important functions in land use practices, mutual aid and rituals. This chapter focuses on the knowledge and belief systems of the indigenous groups in the Andes and in Central America where Compas is implementing various activities.

The peopling of the Americas began approximately 30,000 years ago when climatic changes permitted migration from Siberia across the Bering Straits. It took another 8,000 years for these small wandering human bands to reach the southern edge of the continent, Patagonia, and to spread throughout Central and South America. Those who undertook this 'Great Journey' through the New World survived by environmental adaptation, which enabled them to fan across two continents. Somehow they managed to compensate for infant mortality by high levels of reproduction. Those who adapted to the Amazon Basin continued in a hunter-gatherer mode, learning the skills needed to survive in a tropical rain forest. Agriculture arose simultaneously in the Andean highlands and in Central Mexico some 5,000 years ago, first as a supplement to hunting and gathering, and later on as a response to growing populations. Gatherers observed the plants yielded by different seeds, and then began to cultivate on a trial and error basis. Teosinte, a high protein precursor of corn, was first cultivated in Mexico, while potato was an early, ecologically adapted crop in the colder Andes. The list of cultivated edible plants soon expanded to include manioc, maize, squash, peppers, pineapple, and other American originals, especially several varieties of beans.

Native Americans

Native agricultural technologies evolved slowly to include the use of digging sticks, irrigation channels, terracing and ridging, intercropping and seedbeds. Food processing and storage technologies were also innovated and widely diffused. As towns and cities grew, especially in the Andes and Central America, hunting declined in favour of limited domestication of chicken, turkey, pond fish and other animals. However, animal protein was hard to come by in all the predominantly agricultural societies. Transport was an obstacle for all the American peoples, though alpacas and llamas were semi-domesticated and used for limited local transport in the Andean region.

Being confined to small home markets, these pre-colonial societies invested their agri-

cultural surpluses in exquisite crafts. The royal courts that developed around ceremonial centres stimulated artisans to turn out specialised products of high quality, apart from items they made for daily use. Ceramics and basketwork were closely associated with agriculture, but with time became important forms of ceremonial art. The different peoples throughout the Americas constructed magnificent and long lasting buildings in environments varying from the lowland jungles to highland mountains. While we can still marvel at these sites, such as the ruins of Machu Picchu built by the Incas in highland Peru, and of Tikal built by the Mayas in the tropical lowland of northern Guatemala, it is much more difficult to penetrate the intellectual world of their builders.

The Mayas, prior to their collapse in AD 800-900, had a sophisticated writing system, such as the Maya codices. These documents were systematically destroyed by the colonisers, however, as were many of their ideas about astronomy and mathematics. The Aztecs in Mexico excelled in urban planning, irrigation and public health, but showed little interest in writing. The Andean civilisations never developed a system of writing identified as such. Therefore, the main written sources of knowledge of these cultures at the time of the conquest originate from the Spanish colonial chroniclers. These are replete with names of sacred places in the form of mountains and rocks, lakes and springs, and other kinds of natural and man-made objects with a ritual significance.

Pre-Columbian agriculture. Malnutrition was relatively unknown in pre-Columbian times. In the Amazon and other tropical forests, the descendants of the original settlers built societies, characterised by low population densities and high mobility, combined with a rotational system of resource use for hunting, gathering, fishing, and gardening. For millennia this system ensured ecologically and socially sustainable livelihoods. In the valleys



Guatemalan Mayas honour Mother Earth at the temple pyramid of Huehuetenango.

and highlands the productive systems included different kinds of terracing and ridging, irrigation canals, intercropping and seedbeds, as well as slash-and-burn (or shifting) cultivation. Wetland cultivation was developed to an art form by the pre-Columbian peoples throughout the Americas. The most elaborate systems involved the construction of artificial island platforms and adjacent channels or ditches within the wetlands. Moreover, the Spanish conquerors reported managed forests and extensive orchard-gardens.

These strategies included complementarity of different ecological zones, communal land use, and a complicated system of labour exchange based on solidarity and reciprocity. As a result, traditional agriculture was small-scale, but highly productive. Pre-Columbian Andean biotechnology, for example, has produced around 40% of all the plants consumed by humans today, and has developed around 3,500 varieties of potatoes and 50 varieties of maize [Earls et al., 1990]. These agricultural achievements help to explain the consistently large populations found in settlement studies of, for example, the Maya, and the large number of city-states that emerged in this classical period.

After the conquest

The European conquerors came from an age of iron and steel with wooden ships, navigation, steel swords, guns, explosives, and literacy. They brought horses, cattle, pigs; also diseases such as smallpox, measles, diphtheria, trachoma, whooping cough, chicken pox, bubonic plague, typhoid fever, scarlet fever, amoebic dysentery, and influenza [Segal, 1997]. The local elite was destroyed and their power replaced with that of the Spanish conquerors based on a State-Church structure that controlled the means of production. The colonial times that followed witnessed the exploitation of the lands, the resources, and the people of the conquered regions. Local tribes were exhausted in the search for cheap labour, and slave labour became part of the model. Food habits were modified, as wheat, rice, coffee, banana and sugar cane were introduced and produced for export. Famine, little known in the pre-Columbian times, became a major concern in the Americas.

The conquerors settled permanently in these areas, and mixed with certain parts of the indigenous populations, thus forming the dominant *ladino* or *mestizo* populations. Independence from the colonial powers in the nineteenth century saw power transferred to the dominant ladino populations, while for the native indigenous populations throughout the three Americas the situation changed only marginally.

After colonisation Catholicism became the dominant religion. Seen as a rebellious return to pagan beliefs, the religious animistic expressions of the indigenous populations were destroyed. Christianity was preached as the only true religion. Europeans tried to educate Maya children, for example, in the ideas and language of the conqueror and through the mass destruction of Maya art and images, the repression of rituals, the burning of books, and the methodical eradication of literacy in the old writing system. Where once Maya communities had been in intensive communication and interaction with one another over long distances, they were now fragmented and kept in deliberate isolation. Today there is not a single Maya society, linguistically and culturally; what remains is a mosaic of different Maya ethnic groups.

Post-colonial agriculture. From the time of the conquest to the present, agriculture in this region has been dichotomised between small-scale subsistence farming and large-scale mono-crop operations producing for the market. Some native agricultural methods have continued, but other techniques perfectly adapted to local conditions, such as terracing and raised fields, have largely disappeared. Early colonial institutions and legislation were designed to exploit native labour and mineral resources, and to produce surplus food to support the European economies as well as the colonial administration. Large landholdings were taken away from the native populations and granted to Spanish and Portuguese immigrants, who transformed it into plantation enterprises for lucrative trade with the home country. The system called *hacienda*, with its labour secured through debt peonage, stood at the basis of these plantations. This resulted in the persistent dichotomy between large, extensively cultivated holdings (*latifundios*) and small, intensively cultivated properties (*minifundios*). This system has survived in many Latin American countries until today, and stands at the root of the major economic and social problems.

The small-scale farming enterprises are based on minimisation of risk and adaptations to local ecological conditions, as well as on heterogeneity and diversity within the production system. In spite of their suitability to local conditions, and often exceptional productivity, pressure of the larger society has led to the erosion or abandonment of these techniques. Yet, there are efforts to re-introduce ancient agricultural techniques, like the 'ridged fields' in the Titicaca basin of Bolivia.

Indigenous worldviews

Combining Indigenous and Christian beliefs. A significant number of pre-colonial beliefs from the deep past of the Maya and other indigenous groups have survived to date. A process of synthesis between the traditional beliefs and Catholicism has taken place, which is expressed in various ways by different indigenous groups throughout Latin America. Van den Berg [1989] explains how the Aymara people have become followers of the Catholic Church, without losing their Aymara religious identity. Whilst the Catholic mass is celebrated and attended by community members, the church and the churchyard is also used for ancient rituals. Hatse et al. [2001] describe how for the Q'eqchi' people, one of the Maya indigenous groups in Guatemala, has transformed the ancient Maya traditional cross figure to the Catholic cross in the course of colonisation. For these people, the cross represents God, as well as the sacred hill and valley. The Q'eqchi' bring food and ritual offerings to the cross, asking for rain or sun, for the blessing or healing of animals, and the health of their families.

Another example is the incorporation of a selection of Christian festivities into the Aymara ritual calendar, according to the agricultural production cycle, as well as astrological and climatological considerations. Pre-harvesting rituals are combined with the catholic carnival festivities, which are celebrated widely all over the Andes and other parts of South America. Other expressions of religious synthesis in the rural indigenous communities of Latin America include the celebration of the catholic *Todos Santos*, or All Saints' Day, the 2nd of November, which coincides precisely with the celebration of *Difuntos*, or Spirits of the Dead, in the indigenous world. Reciprocity between the living

and the dead is celebrated at the funeral sites: meals, music and prayers are shared between the living and their ancestral family members.

The way both religious expressions are integrated into daily life is described by Rigoberta Menchu, the Maya woman and Nobelprizewinner of 1992. She explains: “*My mother prayed to Nature. Whenever a problem arose in the community she would go out at night to pray. She greeted the rising sun every morning. My mother’s religion was the Maya faith. My father was a catholic. He was a sacristian and had to place candles and flowers in front of the saints. Reverently he would burn aromatic incense. Never the balance between my father’s and mother’s faith has been broken. We, their children, learned two ways of intense prayer and believe from them. The Creator knows how to deal with that*” [Wijsen and Nissen, 2002].

Community organisation. Rural indigenous communities in the Andes today have a mixed form of traditional organisation: in the form of *Ayllu* - or indigenous organisation for communal and individual land use - combined with colonial traditions in the form of rural villages, and in the case of Bolivia a syndical organisation. The rural communities have multiple functions, such as to administer communal resources, to solve differences between families, as well as to form the basis for expressions of spirituality. The social organisation is based on *reciprocity*, or mutual help, which lies at the heart of the Andean indigenous culture and is expressed in agriculture as well as all other aspects of life. There are many different systems of reciprocity, such as *ayni* (‘today for me, tomorrow for you’), *minka* (payment in agricultural products) and *faenas* (working together on a communal project) [Bilbao, 1994].

Cosmic harmony. The traditional Aymara and Quechua worldview is based on the perception of the ‘totality of the universe’, which includes three major spheres: *Pachankamacha* or the human sphere of life, *Pachamama* or the natural-material sphere of life, and *Pachakamak* or the extra-human, spiritual sphere of life. Human society includes communities, families and individuals, and the relations between them; the natural sphere includes all material aspects of nature. The extra-human sphere includes all super natural beings like God and Angels, personified natural beings, such as the Sun, Mother Earth or *Pachamama*, as well as the spirits of the agricultural products, the saints and ancestors. There is a hierarchy in the importance of these spiritual forces. From this confluence emanates a fourth sphere, *Pachankiri* - or daily life. It is in this sphere that all the shared practices such as the necessary techniques and technologies for the continuity of life, and the social, material and spiritual reproduction take place, be it for agriculture, animal husbandry, forestry, art or other activities [Rist et al., 1999].

Harmony in the cosmos is considered optimal, not only when there is harmony within each of these three components of the universe, but also between them. Both the indigenous groups of Maya and Andean origin believe that, when man respects his natural environment and adapts himself to it, nature will maintain its equilibrium and supply man with what he needs. When man attends to and respects the different spiritual forces, through correct conduct as well as rituals and sacrifice, these forces will remain quiet and will offer him protection, support and abundance. For example, when something happens

in the human world, such as a provoked or spontaneous abortion, this is related to a (natural) disaster, both for the family involved as for the community it belongs to. Abortions are often related to hailstorms, which seriously affect the crops in these regions. In the same way, bad crop results are often perceived to be a result of faltering human conduct.

In this way the equilibrium of the spiritual forces has its effect on the equilibrium of the natural environment, which can then support man in his quest for survival. Thus, the circle is closed: 'all is related to all'. This cosmos equilibrium is not stable, however, as each of the three spheres is contrary to the other and tries to dominate. Thus, in Aymara cosmivision, the fundamental equilibrium between the different spheres is recognised on the one hand, whilst on the other hand the constant tensions that threaten this equilibrium, within the spheres as well as between them, is encountered.

In this tension, another common concept in American indigenous cosmivision can be identified: the concept of duality, or antagonistic forces. In the natural world these include light-darkness, male-female, cold-heat, and drought-humidity; in the human world they include wealth-poverty, and community-individualism; while in the spiritual world they imply protective-dangerous spiritual forces. These antagonistic forces are not perceived as an obstacle to life; they are rather referred to as basic elements in life, as long as they remain in equilibrium and do not exceed their limits. Therefore, the equilibrium in the cosmos is perceived as the encounter between opposite forces that are, at the same time, necessary and complementary.

Spiral notion of time. Up to the present day, the essential elements of the Andean and Maya cosmivision are widespread. In the Andes, the spiral notion of time leads to the understanding of life in terms of *jakakha*, or karma, and *kutimithaya*, or re-incarnation. Time is seen not as a linear process with a beginning and an end, but as a spiral process. This implies that the future is a repetition and expansion of cycles and rhythms. A Maya priest, José Serech explains: "*For us time has no end. Time links us with who we were, with our ancestors, and with who will come, with our children and grandchildren. We are but a part of a chain, and part of a whole. But as an essential part of this whole we have a special responsibility. We cannot simply live our lives, we have to guarantee continuity. And all we do as human beings has its effects in this life and in this world. After we die there is a completely different life, in another world*" [de Walsche, 1992].

Within this concept of time, the concept 'development' is also perceived as a spiral movement, as 'the unrolling or expansion of the past, where only the context of every specific moment changes, as well as the movement from the centre to the periphery'. The moment obstacles arise, the movement returns to the origin, to the sources of knowledge and survival strategies that have been proven in the past. But it is only a phase of development. Once the solutions for the obstacles are found and integrated, development continues, but with renewed potential.

Religious origin of indigenous crops. Amongst all natural forces, it is the earth that receives most attention in Aymara cosmivision. The earth is perceived as sacred, and is expressed in the concept of Pachamama, or Mother Earth, in the Andes. But within the concept of Pachamama, the *chacra* - or agricultural plot - in the Andes, and the *milpa* in

Central America, is what the campesino has the most intimate relationship with. This is expressed in numerous beliefs and rituals [van den Berg, 1989].

These indigenous beliefs in which agriculture and culture form a central unity, provides the basis of life in the uncertain climatic environment.

The potato has its origins in the Andes similar to maize in Central America. The mythical origins of these and other Andean indigenous crops include their creation out of the different parts of a divine body: “*Ashkoy fell on the ground and from the various parts of his body wild plants and crops emerged. From his eyes potatoes and ollucos emerged, from his teeth maize, from his fingers other tubers, such as ocas and mashuas*” [Salas, 1996].

In Central America, Mayas consider themselves ‘the people of maize’. Not only because tortillas, or maize cakes, constitute a major part of the daily diet, but also because maize is the ultimate source and inspiration of the myths, rituals and customs that guide their every day life. The ancient and sacred Maya book, the Popol Vuj, contains the story of the creation of man. It explains how God, after two failed attempts to create man from clay and wood, finally succeeded in moulding the bodies of the first Maya people with maize-dough, four men and four women. Today, maize is seen both as the mythical origin of the Maya people, as well as the holy and necessary food. Maize production, therefore, is filled with ritual activities and beliefs. Rituals start the evening before sowing, when all the participants accompany the seeds that will be sown with incense, candles and prayers. The rituals are observed until the final phase of the harvest, when in a procession the ‘spirits of the lost maize seeds’ are taken home. It is believed that losing one single seed may reduce the strength during the next production cycle.

According to Maya cosmology, producing maize is not just another activity, but an exercise for a dignified life, a process that keeps one on the right track of good thoughts and behaviour,



Within the Andean concept of Pachamama (Mother Earth), the agricultural plot is considered sacred.

reminds one of his origin and destination, and binds one to the generations before him as well as to the coming generations. He who grows maize helps to maintain creation: *“he who sows is being born, and he who dies will be placed in the earth like a maize seed, waiting for new seasons”*. The Maya farmers are, therefore, convinced that for a good harvest, you not only need knowledge and experience, but also ‘the heart of a good person’. But today, the Maya are threatened, as many of them own little or no land at all to produce maize, while almost 600 local varieties of maize are under threat due to the influence of multinationals and their genetically modified varieties [Garcia et al., 2000].

Traditional spiritual leaders. For indigenous peoples the mysterious world of spirits, myth and religion occasionally breaks into the natural world, for instance in dreams and rituals. Since the spiritual world is more difficult to understand than the natural and human world, the interpreters of that world, medicine men, shamans and priests, are more important than experts in the everyday world. In native America the range of spiritual experts was much wider than that of technology experts [Hultkrantz, 1997]. Plants with psychoactive or hallucinogenic properties have been considered sacred. They allow medicine men, or even ordinary individuals, to communicate with the ancestors and the spiritual forces of the mysterious world, who are able to inflict sickness, suffering, death, or calamities on people and whole tribal groups.

Maya local spiritual practitioners, or shamans, as a social institution have survived the last two and a half millennia. Modern village shamans cure individuals of their illness, assuage afflictions of the household, and help neighbours find peace with the spirits of the maize fields. But their work is not exclusively confined to the personal or local realm. Besides the local divinities, shamans are also responsible for community propitiation of the broadly acknowledged Gods, such as the Chakob, or raingods, Yum Kaax, the spirit of the ruins and the forests, and Halal Dios, God Almighty, who is the sun.

Traditional healers are often specialised in a particular area of health. Spiritual matters, emotional affairs, the use of herbs, bone setting, massage or birth attendance are some of these areas. There are also specialists in ‘fear’ and ‘greed’. Most traditional healers combine medical/herbal, psychological and spiritual activities in some way. They do not understand disease by focusing on specific organs, nor do they have knowledge of microbiology. Disease is considered to be a result of a disturbed balance between elements, such as diet, climate, infection, constitution, emotion, behaviour and energies. Many of these factors can make a patient either ‘hot’ or ‘cold’, and remedies are also divided into these categories. Most healers belong to the same social group as their patients, and combine their activities with another occupation, such as housewife, carpenter or farmer [Garcia, 2000].

Living astronomy. Over 3,500 years have passed since the Andean societies built observatories to register the passing of seasons, to measure eclipses, to observe planet rotations, moon and sun phases and the rising or setting of the stars. The careful and elaborate design of those structures show the importance attached to astrology and its relevance for the socio-territorial organisation of the agricultural cycle. The most important spiritual moments, today marked by Christian feasts, are also vital dates for astronomical observations. Many of them are used to predict the climatic characteristics of the coming rainy

season. Another important element in the organisation of social and productive activities is the inter-relation with the phases of the moon. Many activities such as sowing, cutting of trees or animal castration, for example, are limited to periods with certain moon phases. The interest of the Andean farmers goes beyond an abstract scientific interest in the movement of the stars and planets. They try to synchronise their social and productive life with the rhythms of the cosmos, and this leads to what could be called a 'living astronomy'.

Gender aspects in cosmivision. In the Andes, as in many other indigenous societies, the woman is associated with fertility and reproduction. The feminine and the seeds, *muhu* in Quechua language, constitute a symbolic unity. The female character has a divine dimension, when it is included in the concepts that refer to earth - or Pachamama - which in this case refers to the world, the space where humanity and the family lives [Salas, 1996]. Moreover, in the process of religious synthesis between indigenous and Catholic beliefs, the female Pachamama has become associated with the Virgin Mary.

Daily rituals. Agricultural rituals are related to the activities and time of year, take place at various levels, and include social conduct based on the concept of reciprocity. At family level simple rituals are performed on a daily basis, such as *ch'alla*, which includes a small offering by sprinkling drops of an alcoholic drink on top of agricultural products or the Pachamama, in order to show gratitude and fulfil her needs. Through these and other small rituals - sometimes in the home, other times on the agricultural field or specific natural sites - the farmer appeases the natural forces and attracts good luck and abundance. Many rituals are combined with a sacrifice of an animal, which is later on consumed by all present [van den Berg, 1989].

Endogenous development

Today indigenous peoples in Latin America manoeuvre between their faith in ancient knowledge and their aspirations to become 'modern people'. Therefore, endogenous development will have to take both aspects into account. We can build on the natural endogenous process of synthesis of cultures, which has enabled cultural survival over the centuries in the Americas. This synthesis can be interpreted by some as a weakness, but in fact is a strength and opportunity. As was expressed during a conference on Culture and Maya spirituality in Guatemala, February 2000 [Garcia et al., 2000]: "*The major force of the Maya culture has been to incorporate, to direct elements that came from afar which, over time, have become part and parcel of this culture. Like the güipiles (Maya traditional colourful clothing) are the very part of the Maya culture today, the colours, the wool and the designs have come from another world. The great strength of the cultures is not to isolate themselves from the rest of the world, but to incorporate, to translate and to adapt what has come from other parts. The question today is: how do we combine the two worlds, our Maya culture and modernisation, and how can we incorporate things from the modern world within the lines of our own culture and spirituality?*"

Several organisations in Latin America are trying to enhance practices and methodologies aimed towards endogenous development. An example is Educe in Mexico, an NGO that

works with Maya health practices. These traditional practices are usually fragmented, often combined with elements of western medicine. They are used with many limitations, under ideological pressure and with severe scarcity of resources. They depend on an oral culture and lack a homogeneous theory. Garcia [2001] describes how this NGO in Mexico re-enforced traditional Maya medicine by systematising the knowledge and experience of 40 traditional healers, comparing these with other medical traditions, such as Chinese health systems. Striking similarities were encountered, both in concepts as well as practices, such as acupuncture, massage and the use of certain herbs and spiritual healing techniques. This was used to reinforce the local traditional health system, as well as to disseminate the experiences among traditional healers elsewhere in Central America.

Moreover, Educe sought to bridge the concepts between traditional Maya medicine and western medicine, in order to enhance the formal education programmes aimed at diminishing the incidence of diseases, such as cholera. The traditional Maya concept of 'wind' resulted similar to the concept that diseases can be transmitted if, in western terms, they are 'infectious'. Adapting to this indigenous concept of 'wind' in these educational programmes has greatly enhanced their effectiveness in preventing cholera in the rural communities.

Agruco, in Cochabamba, Bolivia, is one of the Compas organisations that has stimulated indigenous markets, in which different concepts of purchase and sale are included. This market system is the centre of exchange of agricultural products between communities in the highlands, who bring many varieties of potatoes and other local tubers, and communities from the valleys, who bring the local varieties of maize. Enhancing these traditional markets are a way to re-activate the production of Andean crops and to support the indigenous forms of solidarity, which may well be viable alternatives to the economic crisis that Bolivian rural population is facing today [Delgado and Ponce, 2001].

In the next chapters, the field experiences of endogenous development within the Compas network in Latin America are presented in more detail.