

## Andean culture and sustainable human development in the Andes

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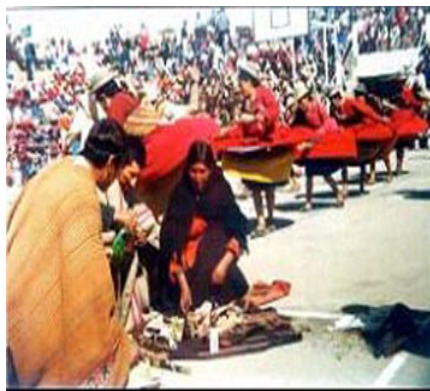
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Payment to the Pachamama (Mother Earth) asking for wellbeing and a good farming and livestock year.



Dances and payments to the Pachamama for good crops received.



Animals must celebrate and participate of communal happiness.

### The human side of development

Dominated by a utilitarian sense of life and the imminence of structural events, we refuse to stop to think about the spiritual dimension of human existence, we ourselves block our cognitive and affective capabilities to understand those integral perceptions of life and the world, that assembly of meanings by which human collectivities give form to their daily social and material existence. To those comprehensive perceptions of the practices of action and models of meaning that are found in the symbolic and normative codes that give the dynamic to, reproduce and transform our existential world.

This dimension is the culture of a society, we can illustrate as a pyramid made up of three basic levels; on the base are found the higher fundamental principles that guide social and material existence, these are expressed in tastes and desires that make up the ethical and axiological system. The

following level, corresponding to explanatory and interpretive models of reality, are what establish social models of behavior, sensitivities and attitudes; that is, the dimension of cosmic visions and identities. And in the upper vertex, are the acts and artifacts of culture, that is to say, behavior and material creations [1]. In daily life we can see only the latter through which we objectify, express our beliefs and values.

Integral perceptions, integrating identities and fundamental values of human life make up the essential contents of economic-social processes, which serve to explain and justify their own necessity and their speed or slowness. Through culture human action acquires meaning for individuals, because it allows them integration into the social milieu, identification with the problems of the collectivity and the acceptance or negation of a social project and of life.

From this perspective, we are concerned in the present document with identifying and explaining perceptions and beliefs of Quechuas and Aymaras of the Peruvian altiplano with respect to their understanding and reflection of natural occurrences to later translate them into productive strategies and symbolic codes that orient their social life.

This dimension of life is not understood by the "modernizing" agents of intervention, who perceive the collectivities as receptive subjects of technological prescriptions, consumers with new needs and adopters of the values of modernity. In Puno the irrelevant and nonfunctional results of this intellectual paternalism has come to be called the "archaeology of development". [2].

## **NATURE AND ANDEAN COSMIC VISION**

In the mythic perception of space and time of Aymaras and Quechuas of the altiplano, "pacha" is a living existential world, sentient, holistic, immanent and affective [3]; in which the community of deities, the community of the "sallqas" and human communities live together in mutual "crianzas" [engendering and nurturing] [4]. These three components of the cosmos, while life is going on, maintain mutually complementary dialectical relations, where happiness, affection, respect, harmony, reciprocity become the circumstantial guidelines of their ethic.

These concepts of Andean cosmic vision are recreated in daily life of "runas" and "j?aqis" when they tell us "On 20 January we are going to make the 'wilancha' to the Pachamama and our Apus, all of us who are here, every year we pay from our great-great-grandfathers on. If we do not do this then there will be hail, frost, it will be a bad year. The Pachamama and the Apus become annoyed, they do not ask water and the little toads and little plants cry. We have to make the fields very happy, we ask permission with an 'ayllachi' to begin working and for there to be a good harvest. For this reason the

Pachamama becomes happy and gives her fruits more willingly, with more affection. We have more faith in the Pachamama, because all over the world she nurtures us giving us potato, cañihua, quinoa. The animals also feed us, for that the 'Pachamama's livestock' must be treated with affection so they do not become angry. With everything we have to live, happy, in harmony, if we fight the frosts and the hail come" [5].

This perception where "the processes of nature and human activities are inextricably intertwined" has constituted one of the fundamentals, if not the principal fundamental, of the transforming process of Andean nature characterized by great biogenetic diversity and climatic variability. The result of "engendering-nurturing" animals and plants that in the present millennium represent food of high protein and medicinal value: meat from camelids and guinea pigs with very low cholesterol, maca, kiwicha, quinoa, tarwi, Ilacon, cuchucho and cat's claw; the same that in the last few years have begun to earn their right of citizenship, seeing as how the social prejudices against Andean man and his culture are slowly being surmounted.

The importance of revealing these ways of interpreting life in the Andean cosmos is to identify the technological fundamentals of an ecological agriculture and the cultural principles of an egalitarian, harmonious, reciprocal and sustainable social model that are not just composed of mere memories of the past, but are ideas, the force that provides the dynamic of daily life and set the guidelines of the future for the populations of the Andes mountains.

## **VISION OF TIME AND PREDICTION OF CLIMATIC BEHAVIOR**

Time in the Andes is the cyclical coming to pass of human experience and of the cosmos. It is a permanent return to origins. It is a permanent meeting of the past, present and future in the here and now (pacha). The concepts that shape this vision at a daily level are the "muyu" which in reference to time denotes "to go or turn around, to be fastened, the permanent meeting of things to go around the aynuqas, the meeting of the harvest and the sowing"; and the "kuti" which refers to the disruption of vital happenings, in which the search for equilibrium is realized through rituals of harmonization". While on a macrocosmic level, it is the "Pachakuti" that implies the total upheaval of the order of things; but at the same time implies overcoming by a phase of greater wisdom [6].

This integral and holistic understanding of nature and time, necessarily entails developing a position, a perspective of observation and interpretation of reality. This is the reason why Quechuas and Aymaras develop a rationale in which affectivity [7], detail (the specific) and the diversity of nature [8] and vital behavior; allows them to possess an intuitive and predictive vision of temporal happenings. The mechanisms that make it possible for them to develop this rationale are mythology, rituals, and the behavior of the

elements; climatic and stellar phenomena, elements of the Andean biomass, festive and climatic events, events in dreams, in their entirety they are denoted "signs" and "lumasas", forming the symbolic language of Andean man of conversation with nature and its tutelary deities.

The conceptual frame and the interpretative point of view described are the basic key to understanding the sense of the life in the Andes based on the high value put on the past and tradition; to understand the behavior of temporal cycles of Andean nature, characterized by its great variability as far as temperatures, altitudes and climatic events; and to plan technological behavior that will assume the annual agricultural productive cycle.

Let us see how this vision is structured in the following discourse: "In my zone I have two old people who are over 100, I always consult with them about different indicators of the agricultural calendar. About this year they told me that there is going to be more rain than last year, they tell me to plant in places where there are no flooding problems, to try to sow neither very early nor very late, furthermore it is a year of good harvests of potato, possibly not a year for oats or barley. I have been consulting for five years, in no year have they failed me. They live at the edge of the lake, observe the birds, the well-known lequecho, the position of its eggs, and the materials of the nest. They give me other indicators, besides, like the winds and the sunsets, this is really nice, I like to observe, too. I have confidence in the signs that the plants, wild animals, the rains and the winds give us. For that reason in general I have not had losses in my harvests, there are years that I recover 100%, I think the lowest has been this year (2001) which dropped to eighty per cent" [9].

## **2001- 2002: CLIMATIC PREDICTIONS, PRODUCTIVE STRATEGIES Y COMMUNITY BEHAVIOR**

The altiplano region of the Andes presents 4 highly differentiated agoecological zones: the circumlacustrine, dedicated to agriculture and livestock; the suni which is for livestock (sheep and cattle) and complementary agriculture; the moist and the dry puna where raising South American camelids has priority. This ecological diversity is very complex, if we evaluate the variables: population density per square kilometer, types of animals being raised, types of crops and their production per hectare, which permit us to identify 12 life habitats (Chahuares y ET, 1993).

In this geocological complexity, the preponderance of agricultural activity is developed under a dry farming system and is very susceptible to climatic risks (floods, hailstorms, droughts, high solar radiation, and low nocturnal temperatures). Generating wealth in this milieu requires a predisposition peculiar to farmers, whose mastery has been called "filigree agronomy", for the

meticulousness of the knowledge they require, the specificity of the spaces, the ecological diversity, climatic variability and the handling of biogenetic resources.

Central to the success of this activity is the aspect of climate management, for which, detailed observation of the behavior of the "signs" and "lumasas" is fundamental. From this "conversation" with the cosmos will be deduced: the specific technological system which the agricultural cycle requires, prediction of the kind of year it is (rainy or dry), of the appropriate sowing time (qhipa, taypi or nayra sata), the kinds of crops that will be successful (tubers or grains), the agricultural spaces to be used (pampa [plain], slope, hill), the kinds of seed (potato, bitter potato) and the disposition of currents of water in the field, among many other considerations. Another set of technological strategies related to controlling for climatic risks are using dispersed productive spaces (vertical control of ecological niches), associations of crops in parallel cycles, the correlation between climate-soils, seed and collective actions to control for frosts and hail. Concordant with this complex technology, occurs an ethic of work and communal life that is expressed in socially established patterns for taking care of the weather which is entrusted to Marani, arariwa, chacrakamayoc, the "mayors" of the countryside, the watchmen of the countryside, the ensigns of the weather [10]; the care of sown fields, respect and care of children and old people in critical moments of the vegetative cycle of the crops, respect to the "sallqas" (wild animals considered to be the engendered-nurtured of the Apus), avoid transgressing communal ethical norms (incest, abortion).

The Andean agricultural year begins in August with the first shoots of wild flora, on fallow land and of the first sowing in moist earth; nevertheless, the observations begin long before. Let us look at a combination of observations and predictions for the agricultural campaign of 2001-2002:

#### **1. Rainy year and for late sowings, deduced from the following "signs":**

- 8 March, day of San Juan de Dios (Saint John of God), it has rained a lot all week.
- The first three days of the month of August have been cloudy and with little wind. This means there it will rain continually the months of January, February and March.
- The Tiqui Tiqui (lake birds) have made their nests high up in the patches of totora reed..
- The Ilacho (sub aquatic flora of the lake) [lakeweed] is growing a lot.
- The fox is crying on the slopes and hills, places that should be sown.
- The chickpea of the pampas [plains] has disappeared.
- The winds are not so strong and principally come from the Cordillera.
- The first flowers of the sankayo, pullapulla, maycha and carihua have been affected by frost, for that reason the first planting will have frost.

- The "lumasas" are just now waking up: The sankayo, pullapulla, maycha and carihua are flowering late.
- The kellopiscos (birds that migrate) are just arriving, but the doves have yet to arrive.
- The leq?echos are just getting together, they still have not made their nests.
- There are no toads, so it will be a late and rainy year.
- The pichitanka (Andean sparrow) is singing very late and is failing in its first songs this means the first planting is not going to be seen.

## 2. Planting strategies and kinds of production.

- Plantings should be from the first days of November on, sow mid-season and late.
- Agricultural zones of pampas subject to flooding, seasonal lakes and riverbanks are remaining without being planted.
- Fields on the pampa not susceptible to flooding are made with deep waru waru-type furrows, while those of the slopes and hills are constructed with a vertical orientation.
- In some communities fireworks are recommended for controlling hail.
- It will be a year of good harvests of potato, oca and izaño [highland tubers], possibly not of oats and barley, quinoa and cañihua [highland grains].

We worked out this paper in the last week of March and later, on verifying the development of the crops; we confirmed that the peasant predictions had absolute veracity. This implies a great challenge for scientific, technological and local development institutions: to assume the culture and knowledge of the Quechua and Aymara so that work will be carried out from an intercultural perspective with contemporary thought to overcome poverty with dignity in the option of sustainable development.

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## GLOSSARY OF QUECHUA AND AYMARA TERMS

Apus: (Quechua) The tutelary deities that dwell in the most important peaks of their localities.

Ayllachi: (Quechua) Ritual asking permission to begin work.

Aynuqa: (Aymara) Productive agricultural area of rotation and collective control.

Crianza: Refers to the action of generating and nurturing life, therefore the elements of the cosmos mutually engender-nurture each other. Quechuas y Aymaras do not produce, just engender-nurture. (Uyway).

Conversación: (Spanish) [Conversation] The form to relate between elements of the cosmos, between whom there are no dependencies in hierarchic levels.

J?aqi: (Aymara) Man in the fullness of his capacities to assume family and social responsibilities.

Kuti: (Quechua - Aymara) vital upheaval, an illness and the action of curing it.

Lumasas: (Aymara) Native flora that serves whose vegetative behavior signals climatic events.

Muyuy - Muyu: (Quechua - Aymara) Designates the cyclical return of time and vital coming to pass.

Nayra Sata: (Aymara) Early planting.

Pachakuti: (Quechua - Aymara) Total upheaval of the cosmos and a return to original times.

Runa: (Quechua) Man in the fullness of his capacities to assume family and social responsibilities.

Pacha: (Quechua y Aymara) Signifies time and space. In the sense that space designates the world, earth, soil, place and in the sense that time denotes period, epoch. The here and now.

Pachamama: (Quechua y Aymara) Mother Earth, she who gives birth and nurtures all that exists in the cosmos. Deity more of Quechuas and Aymaras in present circumstances. She is thought of as an elderly lady of very small size who lives below the earth.

Chipa Sata: (Aymara) Late planting.

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### Notes to readers

This is a case study on The role of Education, Science and Culture for Sustainable Mountain Development. A Mountain Forum e-consultation for the UNEP / Bishkek Global Mountain Summit. 23-28 April 2002.

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