

# Revitalising indigenous knowledge for endogenous development

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Agruco is a university centre in Cochabamba, Bolivia, that combines higher education and social interaction in rural communities. In close cooperation with the communities, Agruco has developed different methodologies of learning and exchange between students and farmers. In this article, the authors present the four main methodologies: the farmers' knowledge info-sheets, the community diagnosis, the 'land management plans', and the 'integrated community programmes for self-management and sustainable development'.

In its evaluation of the 'UN's world decade for cultural development', the United Nations department for Education and Culture indicated the necessity of building on cultural aspects of the people involved, not only because this provides a better basis for the application of projects, but because in each case the cultural realities provide a framework to which actors who provide support must adapt, (UNESCO, 1995).

In Latin America, and in Bolivia in particular, native indigenous organisations have become very strong over the past decade, demanding social and economic improvements for the population. As a result, two important laws have been passed by the government - on 'popular participation' and on 'decentralisation'. These laws allow a higher level of participation of the Aymara, Quechua and Guarani indigenous peoples in local decision making processes. In this context some interesting studies have been carried out, by institutions dedicated to training, investigation and development, such as Agruco.

## University education

University agriculture education in Bolivia, as in other Latin American countries, has diverse effects on its youth. The fact that most of the students are from an indigenous background, often with Quechua or Aymara parents, does not mean that they automatically identify with their own culture once they have graduated. On the contrary, they have often learned to accept a more materialistic vision of life, imposed by modern science and the ideas of the Green Revolution, which form the basis of university agricultural education. The conventional university curriculum does not provide a link between the knowledge in the classroom and knowledge and concepts of the indigenous communities. This reality often leads the students away from their cultural roots, instead of linking them with the potential of sustainable endogenous development (Delgado, 2004).

Agruco was created in 1985 by the state University of San Simón, initially to promote an alternative to the agriculture proposed by the Green

Revolution that could influence the rural development programmes of governmental and non-governmental organisations. Over time, this objective changed towards supporting rural farming communities, starting with pilot research projects and the transfer of technologies, later on shifting to sustainable development, indigenous culture and inter-cultural dialogue.

Little by little, the practical results and the concepts of this work with communities was inserted into the university education. At the moment, the students that opt for this curriculum receive an integrated education, focusing on supporting endogenous development. In this process, the link between the university and the rural communities is essential. The training and investigation programmes, therefore, start with a stay in the rural communities to establish reciprocal learning processes with the families in the search for endogenous development. This is done in the form of 'info-sheets of indigenous practices', for example. The direct contact with community life leads to better understanding of the cosmovision of the community members, who, for example, consider life in a cyclic rather than a linear way.

## Recognising our role

Starting with these info-sheets of farmer's knowledge as an instrument, at Agruco we have begun to build a revaluation and innovation methodology in diverse fields, where technology and social organisation are fundamental elements. At the same time, this insertion allows us to recognise our role as agents or external actors for the sustainable endogenous development of a community. Similarly our role as local actors involved and committed to a country like Bolivia, which is acknowledged as being multi-lingual and pluricultural, is enhanced.

Agruco's main objective is to support sustainable endogenous development through the revalidation of local knowledges and culture, and by

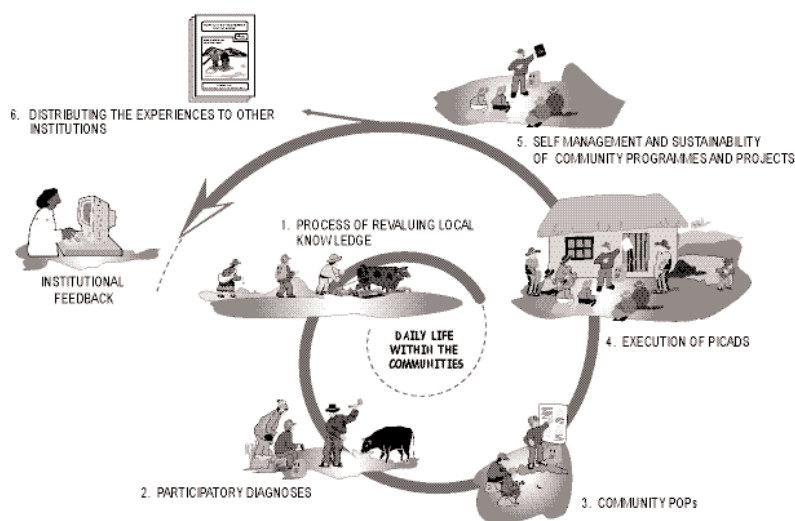


Figure 1 Incorporating local experience into the wider context

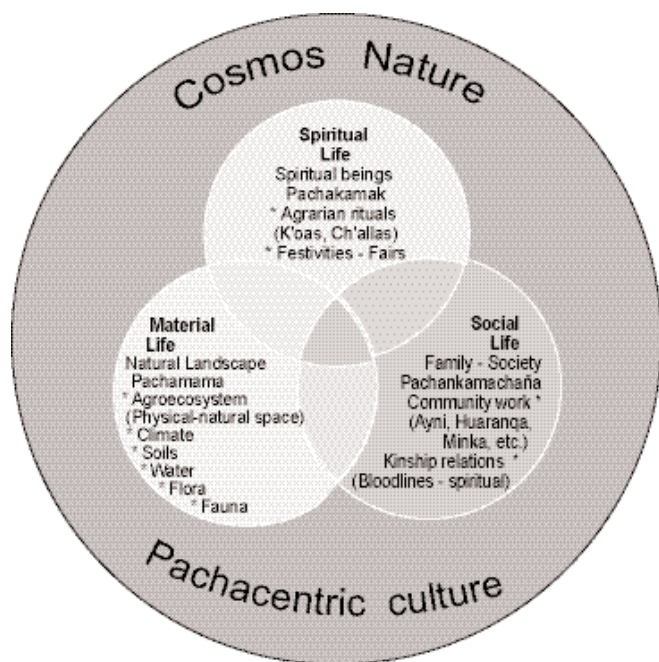


Figure 2 The three spheres of life in Andean communities in Bolivia

enhancing agro-ecology. Throughout the years we have developed methodologies for supporting the process of sustainable endogenous development without interfering too much with the structures, the values and the social context of each community. At the same time, we have learned how to incorporate these experiences into university education, as well as in the policies of development institutions and local governments (see Figure 1).

### Community and university

The dialogue between Agruco and the communities is carried out in field activities and within the classrooms of the university. The topics of the dialogue and investigation are identified by the communities, and range from agro-ecology to matters of politics and organisation. The basis of this work is a permanent process of reflection and dialogue between local and scientific knowledge. Thus, the undergraduate student research projects begin, as much as possible, with the problems identified by members of the rural communities. Then a joint search for possible solutions is started.

The research programme related to the revaluation of the local knowledge and agro-ecology called 'life in the Andean communities' has three domains: plant diversity (including wild plants, agro-forestry and conservation of soils), animal diversity (including wild fauna), cultural and socio-economic diversity (including communal strategies, social organisation, alternative communal economies and governance

and governability).

Each domain has diverse projects and subprojects, and takes into account general concepts, such as sustainability, gender and empowerment of local actors.

The undergraduate and graduate degree programmes are based on the same concepts. Refresher courses are offered, as well as a master's programme in 'Agroecology, Culture and Sustainable Development in Latin America'. In 2003, an international course was started on 'Sustainable endogenous development and biodiversity', by a consortium of universities of Compas.

### Indigenous worldview

Our methodological framework is based on the logic and rationale of the rural people, which we have named 'historical cultural logical focus'. This focus implies that we try to understand, analyse and study the reality of indigenous cultures from the perspective of the social actors themselves. A central notion in this native concept of life is *Pacha*, whose nearest equivalent in occidental terms would be 'the whole conformed by space-time'. *Pacha* embraces the idea of 'totality' as the eternal and dynamic space-time concept. Within *pacha*, three spheres of life flow together and interact: *Pachakamak* or spiritual life, *Pachankamachaña* or social life, and *Pachamama* or material life (see Figure 2) *Pachamama* refers to the material forces that make life possible, and with which living beings are in daily contact.

In a more simple way, *Pachamama* is also referred to as Mother Earth.

These three *Pacha* forces dynamise all aspects of life, and enfold everyone and everything. Mankind cannot be of direct influence in this sphere. From this confluence emanates a fourth sphere, *Pachankiri* or daily life. It is in this sphere where all the shared practices for the continuity of life, and the social, material and spiritual reproduction take place, be it for agriculture, husbandry, forestry or other activities. That is why in daily life, these activities have a social, material and spiritual connotation. This notion of society does not place man at the centre of the universe; the highest aspiration is the continuous re-creation of harmony between micro- and macro-cosmos.

In practice, this methodological theoretical focus points out the operational steps that allow a true understanding of the situation of the rural communities, thus translating this theoretical focus into the methodology of participatory research of re-vitalisation of indigenous knowledge. The basic premise of this research methodology is the horizontal relationship and the intercultural dialogue of knowledge between the university and the community. These have resulted in positive outcomes and insights in diverse fields, such as territorial organisation, natural resource management, agriculture, livestock keeping, art and economy, as well as aspects like social relationships and support mechanisms, organisation of productive activities, rituals and festivals. These have given rise to proposals for endogenous development, stemming from the indigenous cosmivision.

### Farmers' knowledge info-sheets

The elaboration of farmer authored records of Quechua and Aymara local knowledge and practices, which are shared amongst community members, educators and students, is the starting point of the research and development activity. These info-sheets contain farmers' testimonies and describe, in a simple and understandable manner, an innovative practice or knowledge, including its social and spiritual relevance. This description is accompanied by clear drawings that indicate the details of the practice, in the way it is known and used by the farmer. Likewise, the info-sheet describes the socio-cultural context of the community, where the technology or the knowledge originates from, as well as the personal data of the author of the testimony. Finally, there is a more technical contribution containing other relevant knowledge (Delgado, 2000).



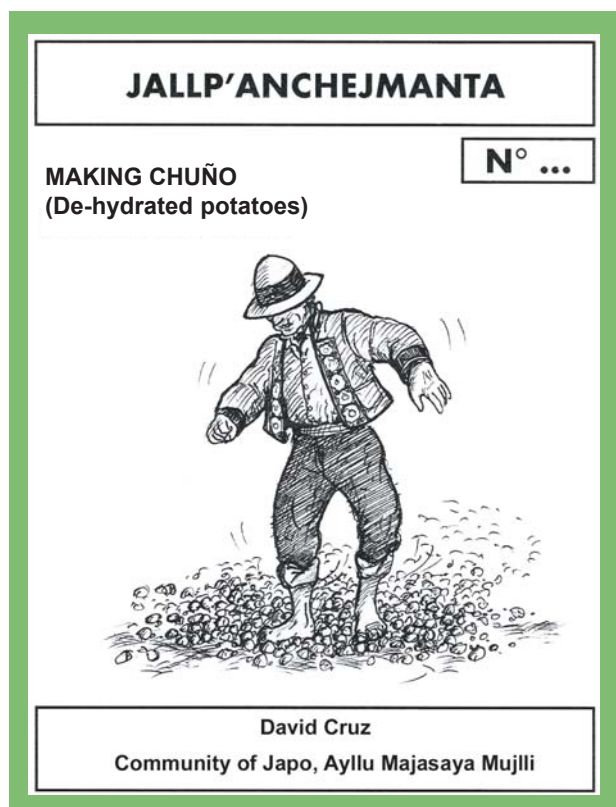


Figure 3 Example of a farmers' knowledge infosheet on making dehydrated potatoes

### Methodology

First, a knowledge or a technology of interest is identified, a dialogue with the community member who is proprietor of the knowledge is organised and the testimony is collected. Through participatory observation the process in which the technology was developed is further acknowledged. Afterwards, in a meeting or a communal workshop, more information in this topic is collected in a participatory way. Then, the information is systematised and distributed as an info-sheet within the community.

These info-sheets of indigenous knowledge have proven useful tools in enlivening the discussions on the the importance of indigenous knowledge and the way it can be adjusted to fit the present day needs. Moreover, it has stimulated the self-esteem and motivation of the community members to continue experimenting with these practices. Thus, the dialogue between the institution and the community results in new knowledge. This contributes to the generation of new community development and university training proposals.

### Community diagnosis

Like the info-sheets on farmers practices and knowledge, the methodology for the community diagnoses is based on Andean logic and rationality. The Cultural Historical Logical methodological focus considers material, social and spiritual life. This enables reliable primary information to be obtained that

contributes to an integrated understanding of the needs, problems and potentials in the community. Community diagnosis is a joint social learning process between local actors and external actors who participate in the diagnosis.

The first step of the diagnosis is to identify, together with the rural communities, their ideas, principles and objectives for endogenous development. In the rural communities an Andean identity is maintained alongside a Catholic religiosity, in which, for example, Jesus' virgin mother Mary is also regarded as the Earth Mother or Pachamama (Alvarez et al., 2004). With this religiosity, the development principles within the community aim for a balance between human society, nature and the spiritual or ritual environment. Other elements of the Andean identity are the reciprocal relationship between people and the land, and the sense of community. This includes the forms in which the rural families, as the basic nucleus, confront their problems and solutions in a collective rather than individual way.

The second step of the diagnosis is to determine the strategy for endogenous development, based on the available local resources. This step includes a diagnosis of the natural, human, produced, economic-financial, social and cultural resources.

The third step of the community diagnosis is the creation of a local

'platform for endogenous development', which can be understood as a strategic alliance between the community and outside - governmental and non-governmental - support institutions.

The participative techniques used in the community diagnoses include transects, participant observation, semi-structured interviews, communal workshops, combined visualisation and oral histories. The systematisation instruments include agricultural calendars, seasonal diagrams, Venn diagrams and flowcharts. These methodologies have allowed us to systematise the results of the diagnosis, and to present them in a clear way, both to the academic environment, local governments and within the communities themselves.

### Land management plans

The work with 'land management plans' is another instrument for diagnosis and planning. By analysing the empirical experiences of the community members, a dialogue can be started on sustainable ways of managing their natural resources. This methodology combines local knowledge about the changes in the natural resource base with scientific methods to measure these. In this case digitalised aerial photographs or satellite images are used. This experience demonstrates how local knowledge can be combined with western scientific instruments (Mendieta, Escobar, Angulo 2001).

The methodology comprises three stages. The first phase consists of a socialisation and motivation workshop within the community, explaining the objectives, benefits and the methodology of this work. Then community members are selected jointly to receive training for collecting the empirical experiences in their community. During this phase, the office work includes making mosaics of aerial photographs of the community, and interpreting the photos.

The second phase consists of meetings between the selected community members and the technical team, where combined reflection takes place on the current situation of the natural resources, on the basis of the empirical evidence and the aerial photographs of the community. This analysis includes the identification of categories of use of natural resources, the ways each of these categories are managed, and the necessity and potential for change. The data is further added to during field trips and informal dialogues. Together with the enlarged aerial photographs this is put into a geo-reference system, called SIG.

During the third phase, a second communal workshop is organised, where the results are presented and discussed. Then the proposals for change are analysed and communal, family and personal decisions are taken on the sustainable use of the natural resources. In a joint manner, a proposal of improved use of the community territory is drafted. Finally, in a third communal workshop, agreements on the concerted future use of natural resources are signed. The final document with all the data gathered is then handed over to the community.

### Integrated community programmes

In order to be able to present this methodology, one needs to understand the context of the planning and funding of rural projects within the Bolivian state. Over the past decade the government has passed three major laws: the law of popular participation, the law of educational reform, and the law for the national institute of agrarian reform. To decentralise obligations and actions, the law of popular participation establishes a decentralised mechanism for the distribution of the economic resources through the municipalities. However, in the last years, the municipalities have not demonstrated the capacity to administer these economic resources appropriately. The funds for small projects tend to become centralised in urban centres, rather than in the rural communities.

Moreover, the smaller municipalities as well as the rural communities are facing a limited capacity to design and implement new development models. Meanwhile, the resources that the municipalities depend on are insufficient to fulfil all the expectations of the communities. This explains the need of the community organisations to acquire the skills to design their development plans in a coherent way, fulfilling the demands of the municipalities and donor organisations. Agruco, together with the rural organisations of Tapacarí and Sipe Sipe, and on a smaller scale with other municipalities and counties, has designed a programme to enhance the capacity of the communities and the municipalities. This is known as the Integrated Community Programme for Self-management and the Sustainable Development - PICADS.

The PICADS' main objectives are to support rural organisations and their knowledge system, to formulate proposals and implement projects to improve the quality of life of the population, and to enhance the natural environment on which it is based. In these pro-

posals, both the logic of the monetary economy and of the traditional rural economy are equally present, which allows people to reassert their cultural identity. The annual operative plans developed in each community also emphasise the interrelation with the other rural communities, municipalities and development institutions.

There are three stages in this process. During the 'orientation' stage, which lasts approximately one year, meetings are carried out with the farmers in the form of communal workshops, seminars and congresses. During these meetings, the objectives of the communities and the municipalities are analysed, as well as their main characteristics, potential and limitations. Then the activities for developing sub-projects are planned, with priority being given to community and zone levels. During the second, or 'consolidation' phase, the participatory research for the 'farmers' knowledge info sheets is carried out, as well as a profound process of community diagnosis. Workshops where communities can exchange experiences are organised, with emphasis on communal organisation and support to the productive activities. The third stage of 'transference' comprises different activities that are oriented towards the reinforcement of the communal organisation, and the administration and management of the community projects.

### Some conclusions

The methodologies presented here have resulted in proposals for endogenous development that take sustainability, self-management, social life, material life and the spirituality of the rural communities into account. PICADS does not only imply the drafting of proposals, but also the participation of the bases in their elaboration and implementation. At the same time, the impact is not only limited to the rural communities involved. The methodology also requires platforms from the rural local organisations with the government organisations as well as non-government and financial entities.

Currently, the PICADS has been implemented in several municipalities and communities, with quite encouraging results. Besides being an integrated-development proposal, it also allows for planning endogenous development activities, which can be monitored and evaluated by the local actors themselves. In that sense it is also a strategy to enhance precise and sustainable management of the scarce natural resources in the community territory.

In this process, the support of quali-

fied technicians, who have received an integral education that includes indigenous cosmovision, is essential. We are convinced that a university education based on reinforcing the synthesis between scientific knowledge and the traditional Andean knowledge is necessary to educate field professionals who possess the capacity to truly support this type of endogenous development.

### References

- AGRUCO, 2002.  
Plan estratégico de la VII fase.  
Documento de consulta interna, AGRUCO-Cochabamba.
- Alvarez A., Mendieta, R., Delgadillo, J., 2004.  
El valor simbólico y espiritual de la tierra y ecosistema de montaña - el acceso a la tierra en la comunidad San Juan de la Comuna. Artículo sin publicar.
- Alvarez A. 2004.  
Caracterización socioeconómica y acceso a la tierra en la comunidad de San Juan de la Comuna, Provincia Bolívar, Departamento de Cochabamba (Tesis de Pregrado).
- Delgadillo J., 2000.  
Revalorización de tecnologías campesinas para el desarrollo sostenible. En: metodologías participativas hacia el diálogo de saberes. Edición Maela, Cochabamba, Bolivia
- Delgado F., 2004.  
Ecosymbiotic complementary and communal approaches for the co-evolution of sciences and dialogue of knowledges. In International Conference: Bridging Scales and Epistemologies: Linking Local Knowledge with global Sciences in Multiscales Assessments. Egypt. March, 2004, págs. 31.
- Mendieta Escobar, Angulo, 2001.  
Diagnóstico participativo y plan de ordenamiento predial a nivel comunal. AGRUCO, HAM de Tacopaya, PASA-UE.

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