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PARTICIPATORY ACTION RESEARCH: VISUALIZING TERRACED LANDSCAPES FROM ASIA, EUROPE AND LATIN AMERICA

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ABSTRACT

The application of Participatory Action Research (PAR) in Peru, PR China, Philippines, Thailand, Italy and Spain illustrates the local perceptions on terraced landscapes and its potential to transformative action. This methodology creates a space to express and mobilise local knowledge related to nature in rural contexts as well as in other formats like the International Conferences on Terraced Landscapes since 2010. The article shows how different actors, when invited to visualize their ideas and practices about terraces, demonstrate original visions of the future responding to modern challenges like nurturing biodiversity, dealing with climate crisis and sustaining their identities. To conclude we deal with the essential epistemological reflection of facing diverse ways of knowing and power to jointly design local initiatives in the defence of terraced landscapes.

Keywords: Terraced landscapes, participatory research methodology, local perceptions, biocultural diversity

RICERCA SULL'AZIONE PARTECIPATIVA: VISUALIZZAZIONE DI PAESAGGI TERRAZZATI DI ASIA, EUROPA E AMERICA LATINA

SINTESI

La sperimentazione della Participatory Action Research (PAR) in Perù, Repubblica Popolare Cinese, Filippine, Tailandia, Italia e Spagna mostra le diverse percezioni dei paesaggi terrazzati da parte delle comunità locali e il loro potenziale trasformativo. Questa metodologia crea uno spazio per esprimere e mobilitare le conoscenze locali nei contesti rurali e in altri luoghi, come le Conferenze internazionali sui paesaggi terrazzati che hanno avuto luogo dal 2010 ad oggi. Questo articolo mostra come attori diversi, quando sono invitati a visualizzare le loro idee e pratiche sulle terrazze, offrono visioni originali del futuro rispondendo alle sfide moderne come coltivare la biodiversità, affrontare la crisi climatica e sostenere le loro identità. Infine, si propone una riflessione epistemologica essenziale che affronta i diversi modi di conoscere e la possibilità di progettare congiuntamente iniziative locali.

Parole chiave: Paesaggi terrazzati, metodologia di ricerca partecipata, percezioni locali, diversità bioculturale

INTRODUCTION

The origin of agriculture in the world 10,000 years ago (Sandor, 2006, 507) shaped the diverse human cultural landscapes. Human modifications based on collective knowledge of communities who have transformed forests, jungles, prairies, deserts, oceans, sees, rivers, coasts in a mosaic of ecosystems existing worldwide. Terraced landscapes are emblematic agricultural systems in mountain areas that often coincide with hotspots of biodiversity (Vavilov, 1935) in Asia, Europe, Africa and the Americas as well as with cultural diversity (Maffi, Woodley, 2010), which leads us to frame the understanding of terraced landscapes with the axiom biocultural diversity. Each of the languages spoken in the world (more than 6000) represents a particular way to understand the natural and the social world (Toledo & Barrera-Bassols, 2008). The domestication of plants to produce food in terraces implies the control of soil and water giving raise to the most spectacular cultural landscapes created by human ingenuity in the last 5 to 6 thousand years ago.

As part of the modernisation of agriculture, terraced landscapes in the hands of peasants are loosing their biological and cultural importance in the global systems (Norberg-Hodge, 2002). Moreover, pressures from the market, rural exodus, competition of natural resources, water, land, seeds with extractive industries are undermining life quality in the cultural landscapes of mountain peoples. The impact of globalization on the social actors who still remain conducting their terraces affects their relation with nature eroding to a critical point the local knowledge systems, embedded in a spiritual relationship with mother earth. In general, the state of terraced landscapes can be metaphorically equated to the concept of disenchantment of reality (Weber, 1919; Jenkins, 2000). Terraced landscapes worldwide are ignored by government policies as they constitute difficult land use systems mostly in hands of small farmers – peasants (Ažman Momirski, Berčič, 2016).

This article begins with an overview of concepts and processes of Participatory Action Research (PAR) followed by examples of local, indigenous perceptions on terraces resulting from dialogical processes in the application of PAR. We have selected them with the purpose to provide methodological insights on the importance of the relationship between power and knowledge. The reflections express our own observations and direct involvement as organisers, facilitators or trainers in PAR and go along with the sequence of the World Conferences on Terraced Landscapes which took place in Asia, Latin America and Europe since 2010. Finally we reflect on the key aspects of the epistemological requirements and limitations of PAR.

The example from Gran Canaria includes also information about the preparations of the forthcoming 4th World Congress on Terraced Landscapes with the title "Re-enchanting Terraces" to be held on the Canary Islands in March 2019. The concept Re-enchantment follows the spirit of Berman´s (1981) historical proposal to recreate a participatory consciousness to contribute to the social construction of alternatives for a better life in this planet.

Participatory Action Research

Participatory Action Research (PAR) is an approach that aims to maximise community participation during research by shifting the role of the researcher from that of an external observer who merely extracts and collects data from informants: those who possess the knowledge (the "knowers") to one who facilitates the generation of knowledge for the empowerment of the local community, an empowerment that enables them to change their own lives (Salas, Tillmann, 2010).

The recovery of collective memory is an essential epistemological value of Participatory Action Research (PAR) by which people gain power different to other scientific research approaches. Social memory implies a powerful discovery of ideas and practices to reconnect with nature and defend terraces for the common good envisioning a future with multifold forms of life fulfilment (Fals-Borda, 1988). The following table contrasts the difference between conventional academic research and PAR:

Action in PAR takes place in a field of power tensions. It starts in the mini-universe of dialogical interactions, and then flows in an ongoing cycle of action – reflection – action. This iterative experience makes possible the personal growth of all the partners into beings with a greater capacity for transformation in wider spheres; from the individual to the family, from the community to the region and so on. It all happens by nurturing the capacities to remember, to imagine and sense possibilities that are desirable, and that are anchored in values such as:

- Authenticity and engagement with the community processes related to those practices that strive towards life fulfilment;
- Anti-dogmatism that makes it possible to discover multiple existing truths without minimizing the differing voices;
- Dialogue, by exchanging different perceptions that bring about a common understanding;
- Acknowledgment of individual, group and community differences, creating space for further conversations;
- Visualization of ideas rooted in people's artistic capacity, their own cultural representations, the subtleties of oral images, and musical expression;
- Re-evaluating cosmovisions in order to bridge life philosophies, value orientations and spirituality;

Table 1: Differences of the knowledge perspective.

Conventional research	Participatory Action Research (PAR)
1. Based on abstract ideas and hypothesis to approach and understand reality. 2. Looks into topics, problems and objective issues neglecting the perception by the human beings. 3. Differentiates a hierarchy between the researcher as active subject and the informants as objects of the research. 4. The methods rely on questionnaires and quantitative data. 5. The truth is shown with data generalising objective proofs and validating scientific hypothesis.	1. Is based on the local context and the subjective explanations of reality by the people. 2. Looks into perceptions, ideas, emotions of humans who are searching for meaning in the transformation of their lives using joint action. 3. In the research process each person participates as a knowledge subject expressing ideas in a dialogical way. 4. The research methods create dialogue spaces to promote the generation of ideas, knowledge and emotions by each person in a visual way. It visualises the collective intelligence of the people. 5. Truth is an intersubjective construction which acquires meaning through emancipatory action and transformation of reality to achieve the vision of a fulfilled future.

- Reconstruction of history – leads to the recovery of cultural identity and projects the historic dynamic of change and life quality improvement;
- Hermeneutic Interpretation – from the testimony the authors explain the content and jointly the ideas and slogans are constructed;
- Democratic Facilitation of village encounters or groups of villagers.

In PAR, action does not mean the introduction of new practices, products or ideas. On the contrary, action follows reflection that helps recognize the cognitive and practical capacities that unfold our thinking, feelings and acting modalities, and that make us take part in the cultural affirmation of community life. Devolution of knowledge – to define future action of the local community the recovered knowledge of space, time and wisdom is the starting point for reflection about the vision of the future and its necessary action.

The PAR Cycle of collaborative research

We consider 6 steps of the PAR process with local communities. The origin of the process can be very diverse. It can be a request of a local community to defend their rights and resources, or a local leader or a NGO-member proposing a PAR process, or an outside agency who wants to support a local planning process.

1. The encounter between the facilitating team and the local community for a **free prior informed consent** (FAO, 2016). The team presents its research plan including topic, tools, process, outcome, team members with a drawing to the local group including leaders and agrees on the implementation of the research and action process.
2. **Overview of space and time:** a first village map will be sketched to define places and distances for transect walks, identify resource persons – wise elders, and also a historic diagram is elaborated.
3. **Sharing knowledge** During 3 days the teams divide into subgroups of 2 persons each, who work with local resource persons, elders, men and women groups, children deepening research topics with regard to land use, agriculture, food, livelihood, social organisation, development projects, etc. We propose three sets of tools: to understand the categories of space (maps, transect walks and drawing, resource flow), the categories of time (calendar, historic diagram, daily cycle) and the wisdom of the people (biographies, matrix, Venn diagram, tree diagram, free drawing, future vision…).
4. The **Hermeneutic Interpretation** of the visual results of the dialogue sessions. At the end of each session in the village the resource person(s) read the visual representation (drawing) and make notes of the content. The facilitator writes down key phrases, which can be visualised for the exhibition.
5. The team prepares the **Exhibition** of the visual representations according to places, topics, from a panoramic view to the details, highlighting key sentences and findings. The villagers are invited and join the exhibition, guided by members of the team. When participants have gathered, the charts are presented by the authors.


Figure 1, 2: Paddy fields in Yuanyang, Mengzi Yunnan 2010 (Photo: Timmi Tillmann).

6. The exhibition as the devolution of knowledge is the starting point for the **Workshop to plan future action**. The villagers and facilitators identify main issues to be discussed and tackled, then the community members divide into subtopics and discuss and propose actions for the different issues in parallel groups. The ideas are presented and discussed. The actions are planned with responsibilities and deadlines, and can relate to village action, further research plan, advocacy work or teaching at schools for children.

CASE STUDIES

Pr China
2010 – First Terrace Conference at Red River in Yunnan

The first international Conference on Terraced Landscapes was organised in 2010 in Mengzi, Honghe Prefecture, Yunnan Province, PR China by the Honghe government, a group of Hani researchers and UNESCO with more than 200 participants (Peters & Shi, 2012).

The terraced rice fields of Yuanyang (Figure 1, 2), are located at the Ailao mountain range, the homelands of different ethnic minorities Yi, Hani, Miao, Yao, Zhuang and Dai. They have created the terraced landscape over the last 1000 years and practice a complex system of cooperation at different to keep the waters flowing, from the forest tops at 1400 m to the river side at 300 m altitude. In 2013 the inscription in the world heritage list of UNESCO was approved.

The topics discussed in the workshops were: history and culture of terraces, the impact of tourism on them, their organic agricultural production, the management of World Heritage Sites and the policies and regulations that affect them. And it concluded with the Honghe Declaration and with the birth of an independent movement called the International Terraced Landscapes Alliance (ITLA). This organization brings together, as founding members, all the participants, and aims to bring to life the national – or supranational – sections by working with a wider group of experts, and citizens who, together, can work on documenting and building the future of these wonderful works, witnesses of the greatest civilizations in the world.

During the conference a farmer forum with representatives of Hani and Yi farming villages was facilitated by the organising team. Here are three results of the participatory research process during the forum that are clear statements of the values they perceive in their terrace landscapes.

Two Yi women show their depiction of agro-biodiversity of the Hani paddy fields (Figure 3): rice varieties as well as corn (Zea mays), medicinal herbs, taro (Colocasia esculenta) and lotus (Nelumbo nucifera). Additionally, they catch eels, snails, red fish and breed ducks and geese inside the paddies. Along the ridges grow bananas, lychees and other fruit trees. They also mentioned that due to the scarcity of water for maintaining all paddies inundated some higher areas of the paddies have been converted to forest areas. The higher areas above 1200 meters and above the village sites always have been forests, which functions as a water storage to provide irrigation to the lower areas.

A group of Hani women describe multitasking of women in terraced agriculture: they collect leaves in the forest and together with animal dung they fertilise the paddies applying mulches (Figure 4). Women are also in charge of irrigating the fields and take care of the water flow as fields need to be permanently inundated. Besides completing the harvest, they dry and store the rice for self-consumption and sale. Women are responsible for the selection of local seeds to keep their genetic capital near the water terraces where people, plants, animals and fish feel at home.

Figure 3: Diversity of crops in the paddy fields (Photo: Timmi Tillmann).

Figure 4: Self-presentation of Hani women in the terraced fields (Photo: Timmi Tillmann).

Figure 5: Dangers of pesticide for life (Photo: Timmi Tillmann).

Figure 6: Farmers diversify the rice terraces with corn, fruit trees, vegetables (Photo: Timmi Tillmann).

One farmer as beekeeper illustrated the dangers of pesticides, which are applied on the crops (Figure 5). This affects the health of the villagers contrary to their wish to have a healthy life.

Sichuan province 2018: Han peasants reshape their terraced landscapes

The origin of rice can be traced back to 2 regions in Asia. The first domestication center was in Sichuan near the Yangtse River, China, 6000 BC, while in India the domestication finished 2000 years later (Fuller, 2011).

The rice terraces of the areas near Luzhou (in Hejiang, Xuyong and Gaokan) close to the Yangtse river are mostly inhabited by farmers of the Han majority. Altitude ranges are between 600 and 1000 m altitude and rice is grown on terraces since ancient times.

The former irrigated rice paddies with its clear classical structures have been reshaped to agroforestry gardens. Due to a multiplicity of factors Han Peasants since the last 5 years are producing a smaller area of rice, combined with corn (for alcohol distillery and pig raising), vegetables and fruit trees, creating a vital agroforestry system on terraced landscapes (Figure 6). There are several reasons for the change. Climate change has reduced the amount of water, which limits the permanent paddy field irrigation. Social inequalities push the migration of young male labour force into the cities. In the villages women and old men remain featuring the pattern of the feminisation of agriculture. Market opportunities neglect rice production and favour the introduction of species like Kiwi (Actinidia deliciosa) (Figure 7) and the promotion of corn for the distilleries. Local rice varieties are kept for self-consumption in a smaller scale.

Figure 7: Kiwi is replacing rice for self-consumption on the terraces (Photo: Timmi Tillmann).

Figure 8: Past, present and future of the Bimo specialists in Yi culture in Meigu County, Sichuan (Photo: Timmi Tillmann).

Meigu County 2002: Reproduction of local identity

Meigu county in Liangshan Prefecture is about 6 hours drive from Xichang, the capital city of Liangshan. Meigu. It is a Yi County belonging to the Nuosu ethnic group. The Nuosu had 2 clans, the Black Yi and the White Yi, who were enslaved by the Black Yi who were the landowners. It is one of the poorest areas in China. Its altitude ranges are from 2000 till 4000 meters and the main activities are the production of corn, wheat, barley, potatoes, buckwheat on rain fed terraces or valley plains and breeding of pigs, sheep and cows.

In Meigu about 1000 Nuosu Bimos (Yi wise people) are still active in the villages to attend the needs of the villagers (Figure 8): predict the weather, decide on best times for planting crops, perform rituals for the life cycle of birth and death, study Yi history, dialogue with nature and the Yi ancestors as well as the mythical animals. Bimos are respected persons – there is even a Bimo Museum in Meigu with several halls dedicated to famous personalities. Bimos are always men (Sing-Kiat Ting, 2017).

In the past the Bimo had many roles in society, to cure people and animals, to predict the future, to offer rituals for many different instances of life, to sacrifice roosters to please the spirits, etc. Nowadays their power is reduced as the community members have access to more services from the state and more information, but they still rely on some prayers. Their vision for the future is to revive a community of practice of Bimos, maintain their studies, increase knowledge and continue with community services. One young apprentice of Bimo expressed that he prefers to become a Bimo as the community respected and appreciated his role and person, while in the city they become second class citizens, who cannot speak Mandarin and do the work of construction helpers, etc. getting little money for their work and living in very poor conditions (24 hour beds in shifts).

Philippines
Central Cordillera 2013: Ifugao terraces part of a complex land use system with potential for food diversity

According to Conklin (1960) since 2000 years ago the inhabitants of the Central Cordillera (800 to 1500 masl) have created a complex landscape with complementary land uses: grassland forest, cane land, woodlot, swidden fields, house terrace, drained field rice terraces, and pond field. Ifugao terraces expand in several districts in an area of 17 000 has of terraced paddy fields. Due to the extraordinary patterns of ecological, social, cultural and the local knowledge that has interrelated these factors Ifugao has been recognised as one of the first World Heritage Sites in 1995 and as GIAHS in 2004 (Figure 9).

In Hungduan a local wise woman and school teacher made a demonstration of useful plants from the paddy fields (Figure 11). In 60 minutes she selected more than 50 plants. She named them and presented their specific food, medicinal and spiritual uses. This ethnoclasification (PAR tool) was presented to a group of young and elder villagers and local agricultural extension workers. Young technicians were surprised about number and the values of the different plants. Young villagers were puzzled while elder villagers knew about the plants but associated them with the time of war when due to hunger they had no other choice then consuming these wild vegetables. The result yielded into a heated debate among local leaders and young technicians about the importance to recuperate the knowledge on plants in the paddy fields. They compared the benefits of incorporating them into the daily diet of the population. They expressed the desire to increase the variety of food with

Figure 9: Ifugao Terraces as world heritage (Photo: Maruja Salas).

local resources and not only limiting themselves to the production of a specific variety of rice as cash crop as followers of the agricultural policies.

Thailand
Chiang Rai 2009: Pakia – self-sufficient complex landscape

The village Pakia, is the home of Akha and Lahu communities in the hills of Chiang Rai (between 800 and 1000 masl) (Figure 12). It is part of the Thagor Sub district of Mae Suai.

The 101 households are still transforming the landscape for their livelihood in a system that combines terraced paddy fields, rain fed cash crop, forest, and swidden fields. The rights to live, cultivate, hunt, fish and collect in an area within the National Forest Reserve as well as their land tenure are not guaranteed. Villagers negotiate permanently with several Government Agencies in order to remain and survive in their homelands. This ongoing process means sometimes to accept rules like producing monocultures of cash cropping or collecting non timber forest for the market economy. This new situation challenges the indigenous knowledge, which expresses in shortening long fallow periods, avoiding the use of chemicals to maintain soil fertility, rely on traditional seeds and such other mechanisms. One outstanding feature of their manifold responses to external pressure consists in focusing in different modes of transmission of the local knowledge.

A 63 year old villager reflects on his own learning experiences. His memories of childhood are related to house building, a type of portable building that require special skills and practices due to the shifting cultivators life style. As a teenager the learning of social skills to perpetuate Akha culture are still present due the subsequence practice at every stage of his life cycle (Figure 13). He emphasizes the spiritual values learned and the orally transmitted practiced to each phase of marriage, having children and now grandchildren.

Figure 10: Collecting biodiversity from paddy fields (Photo: Maruja Salas).

A 60 year old woman presents the idea of acquiring the specialised knowledge related to nature. That is the role of a healer, known as Nipa in the case of a woman or Bimo a male. This kind of knowledge is transmitted through the matrilineal fashion, from mother to daughter or from aunt to niece. The Bimo role is transmitted from father to son. They practice an intimate understanding of nature which is tangible in a repertoire of cognitive skills like climate forecast, seed selection, to perform rituals and ceremonies for the flow of social cohesion.

Miju, herself a Nipa sees an endangered future of healing since the younger generations are obliged to attend boarding state schools, special for ethnic minorities, far away from their home lands. Schooling is a way of removing the Akha and Lahu cultural roots from the children. When children return to their communities they dislike the food collected from the forest, they find the rice grown on the paddy field terraces not as tasty as the white industrial rice, they don´t feel comfortable in their bamboo and wooden houses. They despise speak-

Figure 11: The paddy fields offer diverse food plants not only rice (Photo: Maruja Salas).

Figure 12: Terraces in the Mountains for self-consumption rice (Photo: Timmi Tillmann).

Figure 13: How to become a healer (Photo: Maruja Salas).

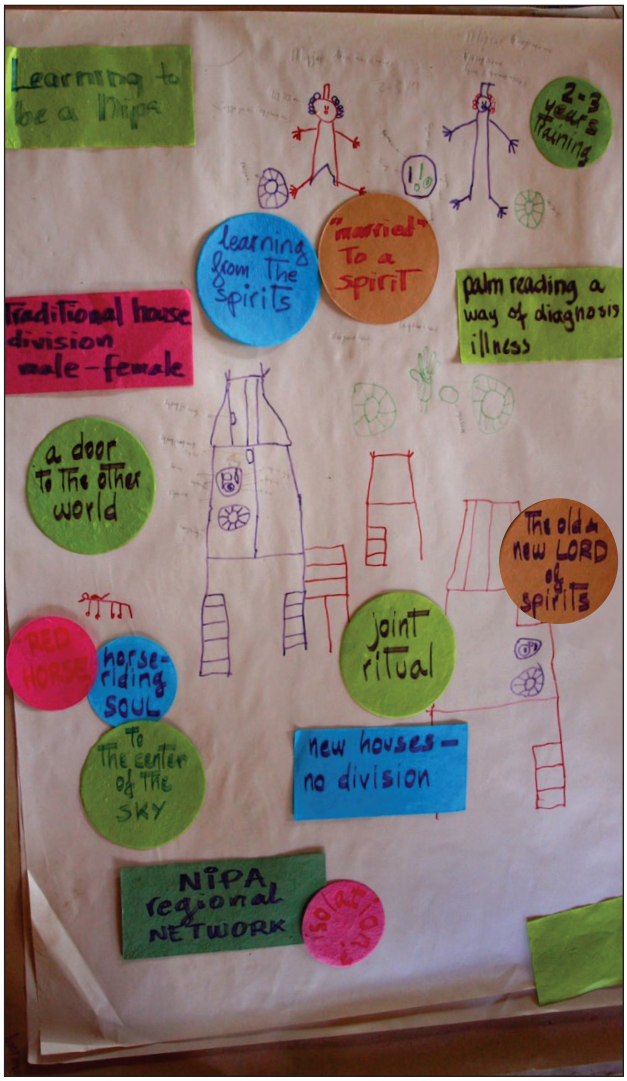

Figure 14: The future of Akha culture (Photo: Maruja Salas).

Figure 15: Experimentation center in the Andes – Moray (Photo: Maruja Salas).

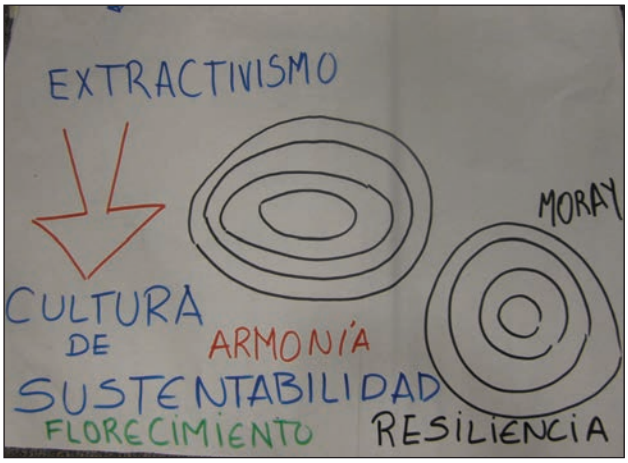

Figure 16: Moray as a model for the future recovery of terraces (Photo: Timmi Tillmann).

ing their mother tongue, local believes, customs and norms and feel ashamed of their cultural background.

Exactly for that strong threat affecting the life style of Akha and Lahu, the mature and elder generations feel responsible to shift this uprooting. Transforming contradiction into opportunities is one of the cultural traits of Akha and Lahu peoples. In their vision of the future they see themselves constructing knowledge ways to enable the youth new forms of reconnecting with nature being the protagonists of practical and spiritual changes by which the young people can see more than just material comfort and having a subordinated status in the Thai society (Figure 14). In other words they strongly wish that young men and women can recreate the roles of the Nipa and Bimo in the future (Wang & Morrison, 2009).

Peru
The Andes of Southern Peru: Circular terraced Landscape, Moray, Maras District - Cusco (3400 masl)

Moray (Figure 15) according to John Earls (2006, 2015) is an Inka demonstration of the knowledge on microclimatic and astronomical cycles, besides a stone walling engineering achievement. Four groups of circles spread in an area of thirty-six hectares where plant breeding experimentation took place for several centuries before the Spanish conquest. The objective was to adapt crop varieties to different altitudes by simulating a diversity of temperatures on the different terraced slopes. The circular structures of Moray, indicate that it is a sun calendar as the curves correspond to the shadow of the sun at sunrise during the solstice of June (Video Otero, 2010). The bowl shaped concavities offer the possibility to test corn and other crops for different temperature conditions and make a selection of seeds. Due to the outstanding importance as a center of Pre Hispanic agriculture as well as its spiritual meaning, Moray has been acknowledge as an

Figure 17: Organising the Terraced Landscapes Alliance in the Andes (Photo: Timmi Tillmann, Maruja Salas).

Figure 18: The valley of Mollebamba – staircase farming (Photo: Timmi Tillmann).

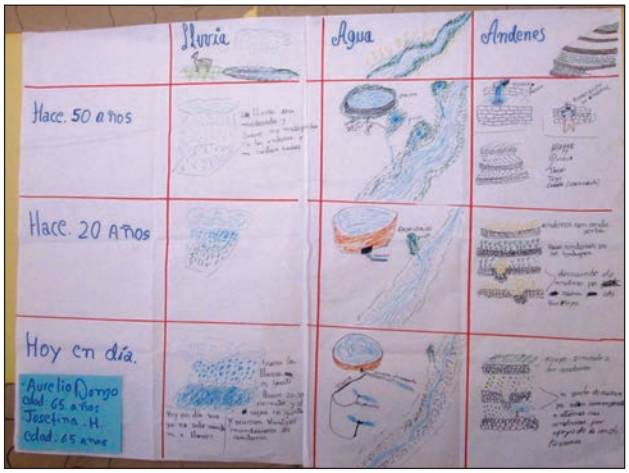

Figure 19: Perception of climate change and the damage of terraces (Photo: Maruja Salas).

emblematic archaeological site for the study of Andean technology and science. It is also a place of pilgrimage to worship mother earth, sun, moon and the stars.

During the 2nd World Terraced Landscape Congress in Cusco 2014, attended by farmers, scientists and activitist, one group reflected and recreated Moray as a symbol to resist extractivism of natural resources and recover people's knowledge. Stressing the values of mutual help, interpersonal and intergroup cooperation the group underlined that local communities can conduct agriculture as an autonomous activity for resilience, a culture of sustainability and harmony with nature (Figure 16).

Another group, after thorough deliberations discussing the past, present and future of terraced homelands explained some key points of their vision for a stronger social organisation at different levels of responsibilities.

The families should guard their land and the stone walls by producing food crops and help each other in the tradition of mutual help (ayni). The community as an organised body (ayllu) takes care of the land use, forests, terraces and water canals and organises regularly communal work (faena and minka).

And at national and international levels the participants proposed to organise and strengthen the International Terraced Landscape Alliance (Figure 17) to voice the concerns of the terrace guardians and users defending their rights and identity (Tillmann, Bueno de Mesquitá, 2015; Tillmann, Salas, 2016).

Staircase Landscape in Mollebamba, Abancay 2012

The terraces in this Interandean valley can be traced back to the Huari period (500 to 1000 years AD). The altitude ranges vary from 2950 to 4000 masl and are masterfully covered by stone wall terraces (Figure 18). The villages today expands between the upper and lower ecological zones.

At present, the main concern of the villagers is the impact of climate change and the mining company Buenaventura. It is extracting copper from the site Trapiche, 8 km away above the community contaminating waters and weakening community organisation by engaging villagers in degrading mining jobs and impeding them to cultivate crops and maintain the stone walled terraces.

The chart visualises the perception of two 65 year old community members about changes in the last fifty years. It correlates three key aspects, rain, water sources, and the terraces.

In terms of rain, it was moderated and gentle, it did not cause harm nor floods. Rain water sources from the high zones were stored in stone walled wells to irrigate the terraces. The water flow was regulated by specialized community members who had a sense of equal distribution so that every community member could produce potatoes (solanum tuberosum), quinua (chenopodium quinoa), tarwi (lupinus), maize (zea mays) and barley (hordeum vulgare) (Figure 19).

Twenty years ago, rains become stronger. Water reservoirs in lower zones favoured cash crops as part of the modernization of rural life. The terraces began to be invaded by weed. Some terraces were abandoned and other began to decay due to increasing absence of community members to maintain them.

Now, climate change has an impact on rains, they are very strong and destructive. In 20 to 30 minutes rain can cause landslides and floods. Today we do not know if it will rain. In some areas we have now hose irrigation.

Two villagers (ages 48 and 12) from the community of Silco, a sub-village of Mollebamba represented their ideas of wellbeing in their community. The depiction starts with the sacred mountains at 4,900 masl., the protectors of the communal territory and the condor as

Figure 20: Treasures of the land (Photo: Maruja Salas).

a symbol for spiritual power. The upper part includes the clouds, main celestial indicators for rain. Herding lamas, alpacas, sheep and horses bring them close to non domesticated animals like the vicuña. The middle zone at 4000 masl is the irrigated area for cultivating barley, some patches of forest, while the lower part between 2800 and 3500 m below the villages towards the river is cultivated with maize on terraces. Other crops include potatoes, Andean tubers, quinoa, fruit trees. Near the village they hold cows for milk and cheese and pigs, chicken, ducks cut for family consumption.

The drawing of the steep slope with Andean crops was titled the *Richness of my homeland* challenging the social stigma of poverty associated to living in terraced landscapes (Figure 20).

After the presentation and debate of the farmer testimonies in the municipal meeting hall, with the presence of the local authorities and other community members a common agreement took place. It was decided to keep the exhibition and invite other communities to follow the PAR process of action-reflection-action discussing about the future on how to maintain and protect the terraced landscapes and peasant agriculture. In second place,

Figure 21: Visions of the future from Ischia (Photo: Timmi Tillmann).

there was a common agreement to invite the school classes of the local primary and secondary school to visit the exhibition (each class with its respective teacher) to learn about the terraces and to provide an interest to do further research with the elders about the past, present and future of the community life based on terrace agriculture. In other words, the community decided to actively shape the future of their terraced landscapes relying on their own knowledge and practices.

Italy
2016 Veneto Third World Meeting

The Third World Meeting on Terraced Landscapes in Italy 2016 provided a powerful impetus for international efforts to protect and value terraced landscapes. It offered to the participants from other continents a profound insight into the remarkable heritage of terraced landscapes in Italy by visiting 10 different terraced landscapes. The overall objective of these visits was to collect diverse ideas from local people for a wider and rich repertoire of arguments contributing for choosing the future on terrace landscapes (Tillmann, 2016).

Caring for terraced landscapes means to blend cultural and historical value, environmental and hydrogeological functions, quality of life, community empowerment and sustainable development to experiment and to share new sensible visions, new strategies and functions for terraces and their inhabitants in term of capability, inclusiveness, fulfilment and happiness.

The design of the format of this unique international encounter and the 10 days program was a sequence of interactive spaces in Venice (2 days), 10 different Field Sites all over Italy (5 days), and at the University of Padua (3 days). One of the field sites was Costiera Amalfitana (World Heritage Site since 1997) with thematic seminars and to Ischia (tentative World Heritage List since 2006) where we visited the slow food movement and the local activists.

Both in the Costiera Amalfitana and in the isle of Ischia, terraced crops are the main actors of the scene: in opposition to the harshness of geological landscapes they

Figure 22: Agronomy students develop their proposal for the island (Photo: Timmi Tillmann).

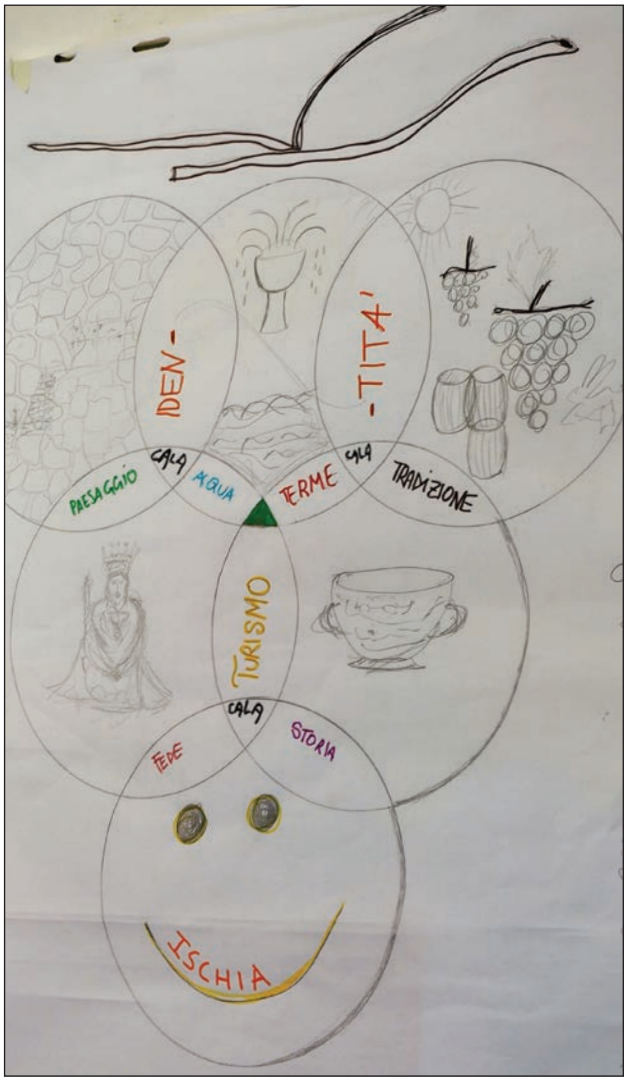

Figure 23: Cultural Identity is the clue for re-enchantment (Photo: Timmi Tillmann).

shape the coastline and the promontory by slithering a special whole of intensive and peculiar grandeur. Main landscape features are represented by abrupt changes in steep slopes, scarps, ledges, steep rock face and cliffs overlooking the sea. Such territory, closed between the sea and the mountain range of the Lattari, drove the inhabitants to seek their fortune and prosperity from the sea. The few arable land has been intensively cultivated from farmers who tore off the nature, allowing to construct even where it seemed to be a hard battle against the mountain. Farmers cultivated many kinds of vegetables, potatoes, eggplants, peppers, courgettes, artichokes and garden rockets besides diverse fruit trees including lemon and orange.

The island of Ischia has been occupied by many different forces in history - already in the 8th Century BC the Greeks colonised and brought wine and terraces and traded with the Etruscans who also adopted terraces and wine. Romans enjoyed the products from the island (olives, wine, chestnut and almonds). During the centuries it was invaded by German tribes, pirates from northern Africa sought their fortune, it came under Norman rule, Phoenicians and Carthaginians settled for some times. And in recent history Austrian, French and English domination eyed on the local resources and the important role for the maritime trade and control.

'Slow island' of Ischia 2016

A group of young agriculture students together with Slow Food Activist Silvia d'Ambra from Ischia presented their vision of the future of terraced landscapes (Figure 21). They favoured recovering the traditions and the abandoned terraced lands, to revive the food production for

locals and for tourists and to use modern technology of organic farming and create employment for young agronomists to take care of the land and production with quality products (Figure 22).

The activists from Ischia emphasize in their vision of the future the recovery of the (multi-) cultural identity of livelihoods (Figure 23) on their island and the promotion of good food (slow food) and millenary wine. Ischia has benefited from diverse cultures and still keeps a memory of cultural diversity reflected in cosmovisions, food and technology.

Spain
Canary Islands 2019

The IV ITLA Terraced Landscapes World Congress about the Re-enchantment of Terraced Landscapes, to be held in March 2019 in the Macaronesia (Romero 2016). It will be a unique opportunity to share knowledge, experiences and practices of various experts on the subject complementing and debating the outcomes of various fieldwork s with the vision of RE-ENCHANTING THE TERRACES. In other words to engage new insights gained on local perceptions about the flowering of terraces, where multiple combinations of ideas, aesthetic and ethical practices are intertwined in the complex of biocultural diversity.

Therefore it is being preceded by a series of events (workshops, summer school, seminars) (Figure 24) from November 2017 to March 2019 combining 2 methodological approaches: Participatory Action Research and the Landscape Observation in La Gomera, Tenerife and in Gran Canaria. Their results and experiences will be presented and will serve as a basis for the sessions, discussions, workshops and fieldwork of the 4th Congress which will focus on 4 general topics: Living with terraces, Local knowledge and wisdom, Constructing terraced landscapes and Learning for the generation and transmission of knowledge.

At the same time the group process is expected to be a continuous and long-lasting re-enchantment beyond the timeline of the Congress. This is why one of the main working methodologies are concerned with the creation of spaces for the voices of the growers and builders of terraces, for their memories and experienced knowledge and practices that they consider significant in order to renew the conditions for the terraces to be brought back to life in the future and the possibility of in-habiting them, sharing their future and evolution.

METHODOLOGICAL REFLECTIONS

The narratives surfaced by the application of PAR methods are showing the complexity and the links between biocultural diversity and the knowledge generated by agricultural societies. Diverse people in specific

Figure 24: Students of the PAR Workshop with field practice in Santa Lucia, Gran Canaria (Photo: Timmi Tillmann).

ecological conditions create a wide repertoire of forms of terraced landscapes.

Terraced landscapes coincide to a certain extent to the Vavilov centres and hotspots of biodiversity. East Asia domesticated rice 8000 years ago on paddy fields and still is producing rice in hands of small scale producers, peasants in SW-China, Burma, Laos, Thailand, Vietnam, Philippines and Indonesia. In the Mediterranean region wine production and terraces existed even before the Romans disseminated this to Slovenia, France, Switzerland, Germany and still the terraced landscapes produce high quality wine having conquered a space for terrace wines. The Andean region still contribute to the world survival with more than 44 original food plants most of the cultivated in terraced landscapes in the Andes (Horkheimer, 1973).

The diversity of Knowledge Systems

The domestication of plants involves social constructions of ideas, perceptions, concepts, values and feelings that orient human actions in reality (Childe, 1956). This is shared through language amongst groups that have a common historical experience, which is stored in the collective memory. Therefore there is no knowledge superior or inferior. There are different knowledge systems. Each one characterised by epistemological qualities, the power within which it is embedded, by different forms of transmission, and by the way it changes from generation to generation (Marglin, 2006).

The most salient epistemological and practical characteristics of the knowledge forms that have created terraced landscapes can be named as follows:

1. It is locally rooted in a particular place and as set of shared human experiences. The knowers form an epistemic community. They attribute and decodify the meaning of water, stones, the sky, plants, trees, mushrooms... all elements of nature bear a special significance to them;
2. The basic modes of transmission of knowledge from generation to generation is oral, complemented with

demonstration and imitation of practical skills. Cognitive capacities like intuition and also dreaming are part of the ways in which knowledge is acquire;

3. Knowledge possesses an abstract nature and it is theoretically complex. Explanations are conveyed in cultural codes and in rituals but these are embedded in everyday life. Theories have been tested by many generations and validated by the intelligent group contributions. Contrary to what is normally said about local knowledge being static, dialogical relations show that it is an open-ended process, constantly changing, incorporating new ideas; producing and reproducing traditions, discovering, forgetting – by no means fixed or backwards but always negotiating with other knowledge traditions (Toledo & Barrera-Bassols, 2008);
4. Knowledge is unevenly distributed according to gender and generation, in the sense that although everyone shares basic knowledge to survive, some women or men of the community are inclined to develop their curiosity towards medicinal plants, observing the stars, helping to give birth, or caring for seeds. In terms of generations, some elders achieve a status of very knowledgeable or wise, showing an outstanding mastery of some skills, such as telling stories, weaving certain symbolic patterns, organising labour or predicting the weather;
5. It is sacred: some people have a more coherent degree of ritual and other symbolic constructs, acting many times as mediators between this world and the transcendental. But this person is part of the group without being considered as someone who knows everything. Since knowledge is embedded in a particular cosmovision (Posey, 1999) it is not possible to separate the technical from the non-technical, the practical from the theoretical, the mythical from the historical, the quantitative from the qualitative, the objective from the subjective and other such dualities (Pimbert, 2008);
6. Therefore, each knowledge system has a future in a world of biocultural diversity, where indigenous views and practices conquer their rights for self-determination, peace, security to coexist with other knowledge system (Visvanathan, 2006).

The paradigm shift

In broad methodological terms, PAR considers research as the process in which people engage imaginatively in the exploration of the meaning of life actions. There are no researchers nor informants as all involved are subject of knowledge and protagonists of the outcome of reflective interactions that might lead into unexpected directions, without a pre-set agenda. The people involved in PAR might agree to: design steps for further joint actions, meet again and continue exploring, build a network, make themselves visible in another community setting, gain confidence in articulating their voices, take a spiritual path related to the continuity of life, organize themselves together to achieve an objective, and claim their rights. All these actions and others arise from the decision to "transform". Within the modality of PAR we decide to assume the role of facilitator instead of a classical researcher (Salas, 2010; Marshall, Reason, 2007).

To be a facilitator requires:

- Open his-her mind to deal with dynamic complexities;
- Practice a holistic approach integrating nature, culture, spirituality and well-being;
- Be an interlocutor in the dialogue; listening with sentient intelligence;
- Value the diversity of perceptions about reality; the particular cultural cosmovisions and ways of knowing;
- Be a mirror in the process of reflection, opening up to see and appreciate differences;
- Show curiosity towards the different, genuine and authentic knowledge expressions and modalities;
- Respect the autonomous decisions of the partner regarding generation, control and ownership of knowledge resulting from the PAR process;
- Be creative and respectful of the visualization of ideas that express the aesthetic and the cultural perceptions of the local partners.

The facilitator works in the field as a team. In this way, we look for clues and traces of local wisdom that contain responses to the disenchantment caused by globalization, modernization As a team of facilitators we shift into a new paradigm as nurturer of metaphoric ideas, memories and images about human interactions with nature, and with the more-than human-world. That allows the re-enchantment of this world sharing ecological and spiritual values for the continuity of life in this planet.

CONCLUSION

PAR is a fascinating methodology for the empowerment of people, but there are also dangers we have encountered in some circumstances of its application in the last 35 years.

Dangers of the misuse of PAR lie in manipulation of the collective ideas, routinely application of methods without creativity, technicisms of reducing development to material growth, instrumentalising knowledge for the benefit of the outsiders, collecting data and trivialisation of local wisdom.

It requires a very conscious and creative researcher as a facilitator of open-ended dialogue processes, which on one side depends on the own socialisation and personality and to learn an openness to intercultural understanding of knowledge systems to be able to foster and respect the culture of the local group.

PARTICIPATIVNO AKCIJSKO RAZISKOVANJE: VIZUALIZIRANJE TERASIRANE POKRAJINE V AZIJI, EVROPI IN LATINSKI AMERIKI

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POVZETEK

Razprava se prične s pregledom konceptov in procesov participativnega akcijskega raziskovanja, katerega cilj je čim večje sodelovanje krajevnih skupnosti v raziskavah. Slednje upoštevajo preobrazbo vloge raziskovalcev, ki ni več samo v pretežnem zbiranju in povzemanju podatkov od informatorjev, torej tistih, ki znanje resnično imajo, ampak je v omogočanju pridobivanja znanja za krepitev (notranje) moči in opolnomočenja sodelujočih krajevnih skupnosti. Aplikacija participativnega akcijskega raziskovanja v Peruju, v Kitajski republiki, na Filipinih, na Tajskem, v Italiji in v Španiji temelji na zaznavi, ki jo ima lokalno prebivalstvo o terasirani pokrajini, in ugotavljanju potencialov, ki jih imajo te zaznave za preoblikovanje delovanj krajevnih skupnosti. Primeri so bili izbrani z namenom, da omogočijo metodološke vpoglede v pomen odnosa med znanjem in opolnomočenjem. Pripovedi, ki jih zaznamuje uporaba metod participativnega akcijskega raziskovanja, kažejo povezave in celovitost odnosov med biokulturno raznolikostjo in znanjem, ki ga ustvarjajo kmetijske skupnosti. Različni ljudje v posebnih ekoloških razmerah ustvarjajo širok repertoar oblik terasiranih pokrajin. Nevarnosti zlorabe participativnega akcijskega raziskovanja je v manipulaciji kolektivnih idej, rutinski uporabi metod brez ustvarjalnosti, uporabi tehnik za zmanjševanje razvoja zaradi materialne rasti, instrumentalizacije znanja v korist obstrancev, zbiranja podatkov in trivializacije lokalnih modrosti. Participativno akcijsko raziskovanje zahteva zelo ozaveščenega in ustvarjalnega raziskovalca, ki spodbuja postopke odprtega dialoga, odvisne od raziskovalčeve lastne socializacije in osebnosti ter sposobnosti njegovega učenja odprtosti do medkulturnega razumevanja sistemov znanja; le tako lahko tak raziskovalec spodbuja in spoštuje kulture krajevnih skupnosti.

Ključne besede: terasirane pokrajine, raziskovalna participativna metodologija, krajevne zaznave, biokulturna raznolikost

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