



**“14 years creating wealth,
prosperity and celebrating
life”**



www.pachamamaraymi.org

Environmental and social sustainability in Pichigua

Management Report 2018-2019

January 2020

Cusco - Perú



Agenda

- 1 Background information
- 2 Objectives: Population and Estimated Results
- 3 Implementation of the Methodology
- 4 Results
- 5 Technical Financial Report



Project Executed with the Pachamama Raymi Methodology



VISION
*To let rural
communities prosper
in a short time*

MISSION
*To facilitate integral and sustainable
prosperity in rural families and their natural
environment, discovering and strengthening
their potential, cooperating with **companies,**
governments and local institutions.*



1. Pachamama Raymi is a methodology for eradicating rural poverty. We attack its three components: **Low self-esteem, poor health and low income.**

We use two tools: inter learning and motivation.

2. Project elements:

(i) We invest in emotional assets and social strengthening actions: strengthening self-esteem, identity and culture, improving the people, developing positive leadership, constructive institutional relationships.

(ii) We install preventive health habits at family and community level: healthy housing measures, family and community management of water and waste, that families comply with government programs.

(iii) We create wealth and reactivate the family economy by recovering the environment: Change of resource management; from degraded to recovered and stop depending on the seasons to produce food (production of fodder). We work on massive reforestation with timber trees.

Project overview

■ General Information of the Project "Social and Environmental Sustainability in Pichigua"

Pichigua

- **Location:** Pichigua, Espinar, Cusco
- **Funding:** In 2 years
 - Pedro Britto (USD 130,000)
 - Daniel Arias (USD 100,000)
 - Municipality of Pichigua (USD 76,900)
- **District area:** 28,800 hectares
- **Average altitude:** 3,870 m.a.s.l.
- **Life zone:** Andean altiplano (Arid and dry)
- **Families:** 500 families

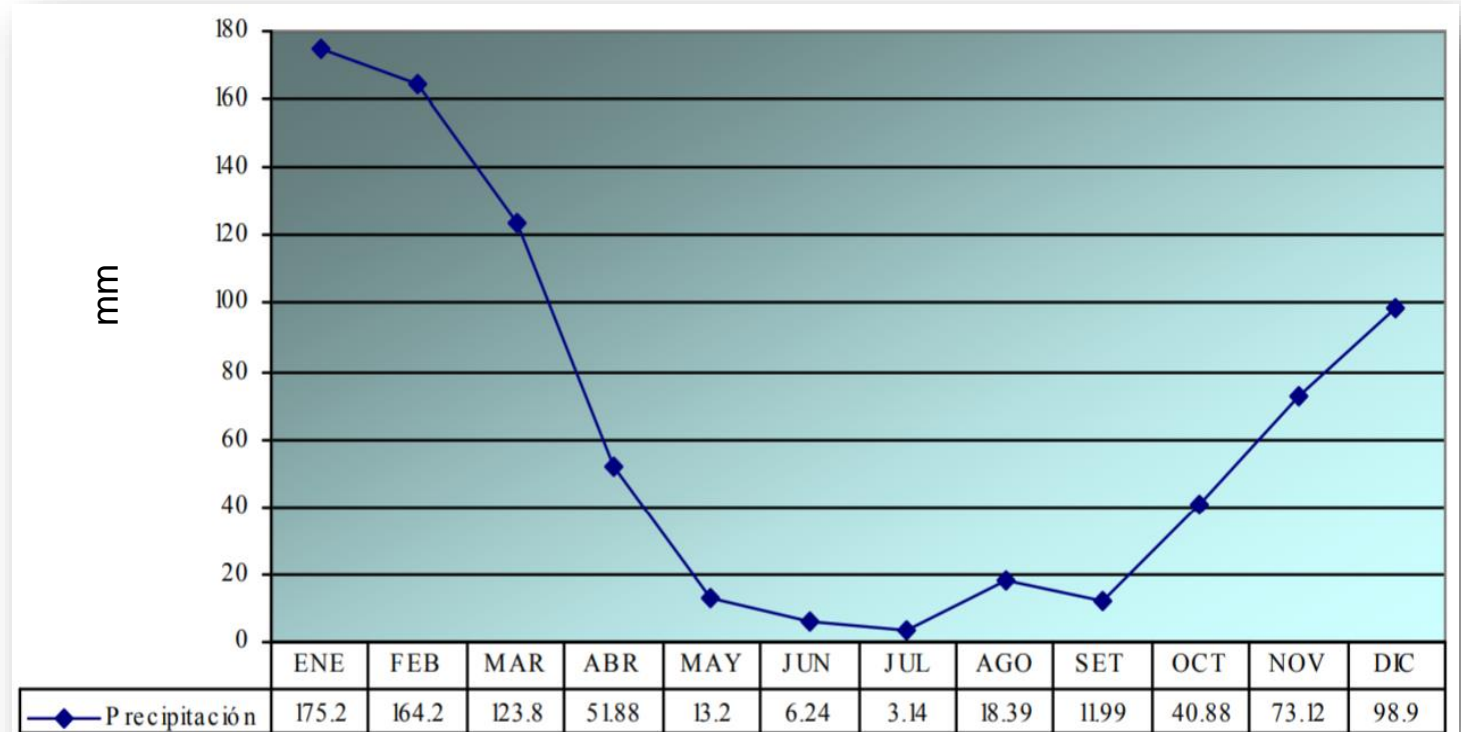


Peasant expert from Pachamama Raymi teaches school children from Pichigua how to plant trees

Project overview

Pichigua: Severe environmental degradation

- Zone of cold and dry altiplano: Occurrence of frosts from April to November, the most critical months are June, July and August.
- Water shortages worsen between April and September. "Before, when it rained, the river took 5 to 7 days to regulate its flow, now it doesn't. In a few hours you can go from having a large river to having a very low one." The soils of the landscape are no longer able to retain water.
- Annual rainfall is around 200 millimeters per square meter on average. Presence of hailstorms and frosts at any time of the year.
- **Picture on the right:** Average monthly rainfall over the last 14 years in Espinar (Xtrata copper mine weather station - Tintaya / 2006)



Project overview

Pichigua: Severe environmental degradation

- Surface water table. The springs dry out between May and September.
- Free grazing of cattle and sheep are worsening the situation. Grasslands are becoming bare and do not retain water. 10% of the territory is arable: Potatoes, cañihua, quinoa, barley and oats are being cultivated. The latter is being installed massively through the municipality.
- **Image on the right:** Shows the typical landscape of Pichigua covered with ichhu (Peruvian feathergrass), in some areas the vegetation cover has disappeared.

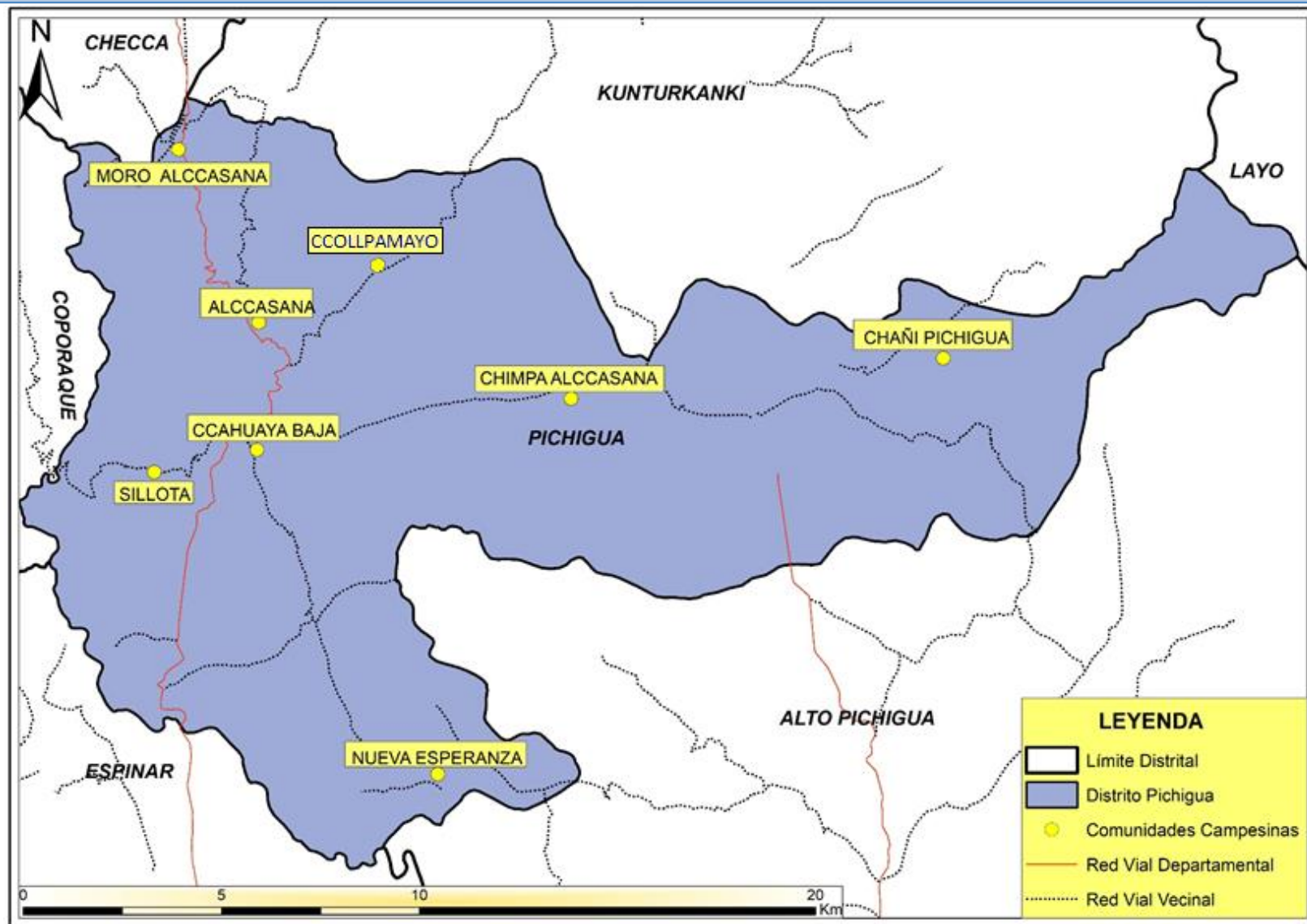


Communities in Pichigua

Target population:

About 650 families live in the communities, the rest is a population that sporadically goes to the community.

N° Community	Target families (residents)
1 Alccasana	107
2 Ccahuaya baja	116
3 Chañi pichigua	80
4 Chimpa alccasana	100
5 Collpamayo	44
6 Moro alccasana	160
7 Nueva esperanza	39
8 Sillota	32
Total	678



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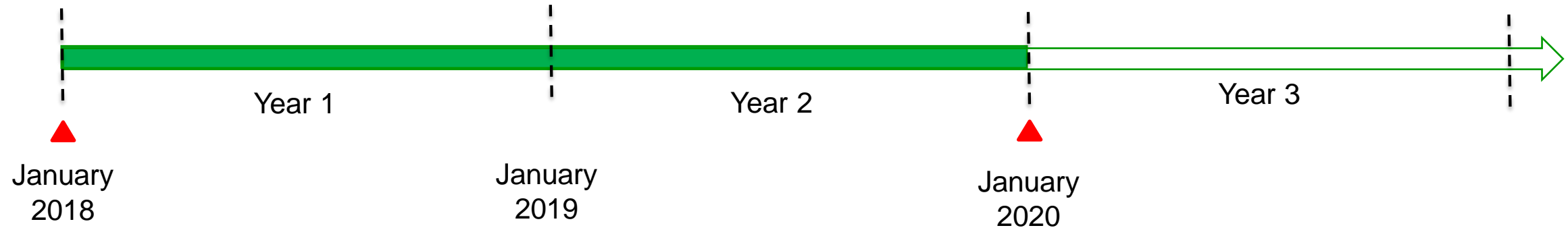
250 families have participated in the 4th Pachamama Raymi contest

- An average participation of 57% of the total community population invited to the Pachamama Raymi competition has been achieved.

N° Community	Target Families (residents)	Participating Families (First competition)	Participating Families (Second competition)	Participating Families (Third competition)	Participating Families (Fourth competition)	Percentage
1 Alccasana	107	76	107	NP	NP	100%
2 Ccahuaya baja	116	62	69	97	73	63%
3 Chañi pichigua	80	35	37	38	49	61%
4 Chimpa alccasana	100	47	31	NP	NP	31%
5 Collpamayo	44	NP	NP	27	26	59%
6 Moro alccasana	160	51	60	65	58	36%
7 Nueva esperanza	39	20	26	27	22	54%
8 Sillota	32	19	26	28	22	69%
Total	678	310	356	282	250	57%

There have been 4 competitions in two years of the project

■ General Project Timeline



■ Summary of the project in numbers

Objective: Achieve prosperity for peasant families in the communities of Pichigua

Objective	Dimension	Results	Target Year 1	Target Year 2	Target Year 3	Indicator
Achieving prosperity for farming families in the communities of Huaripampa Alto, Ayash, Pampas de Huamaní and Juprog	Self-esteem, identity and coexistence	<ul style="list-style-type: none"> Families and communities have a clear and positive vision of their present and future 	40%	50%	60%	<ul style="list-style-type: none"> Families have a clear and positive vision of their present and future
			3	5	8	<ul style="list-style-type: none"> Communities have a clear and positive vision of their present and future
	Preventive health and nutrition	<ul style="list-style-type: none"> Families and communities are in good health and nutrition and acquire new skills and competencies in housing management 	40%	50%	60%	<ul style="list-style-type: none"> Families improve the quality of their homes
			40%	50%	60%	<ul style="list-style-type: none"> Families improve their diet
			40%	50%	60%	<ul style="list-style-type: none"> Families adopt preventive health habits
			3	5	8	<ul style="list-style-type: none"> The community has agreements and sanctions for cases of alcoholism and domestic violence
			3	5	8	<ul style="list-style-type: none"> The community adopts preventive health habits: Proper maintenance of the drinking water system and chlorination.
			40%	50%	60%	<ul style="list-style-type: none"> Families expand areas of pasture cultivation and forestation by improving agricultural and grazing land.
	Sustainable family economy	<ul style="list-style-type: none"> Families adopt productive practices, recovering natural resources and improving their family income in a tangible and sustainable way 	40%	50%	60%	<ul style="list-style-type: none"> Families improve their income through business according to their abilities.
			40%	50%	60%	

Objective: Summary of progress

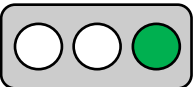
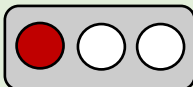
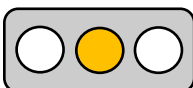
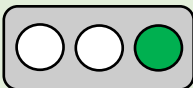
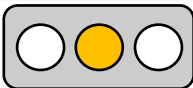
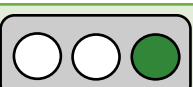



Dimension	Target Year 2	Indicators	Perception	Comments
Self-esteem, identity and coexistence	50%	<ul style="list-style-type: none"> Families have a clear and positive vision of their present and future 	80%	<ul style="list-style-type: none"> Thanks to internships at Granja Porcon, past projects Pachamama Raymi and others.
	5	<ul style="list-style-type: none"> Communities have a clear and positive vision of their present and future 	80%	<ul style="list-style-type: none"> 100% of the communal premises have a plan for the future within their walls (ecological and economic zoning)
Preventive health and nutrition	50%	<ul style="list-style-type: none"> Families improve the quality of their homes 	60%	<ul style="list-style-type: none"> 100% of qualified families made improvements to their homes and achieved better quality living standards
	50%	<ul style="list-style-type: none"> Families improve their diet thanks to vegetable cultivation 	50%	<ul style="list-style-type: none"> Las familias cultivaron verduras en pequeños invernaderos. El clima extremo y el costo de los plásticos impidió que más familias logren cultivar verduras.
	50%	<ul style="list-style-type: none"> Families adopt preventive health habits 	50%	<ul style="list-style-type: none"> Water scarcity results in the fact that not all families have access to clean water.
	5	<ul style="list-style-type: none"> The community has agreements and sanctions for cases of alcoholism and domestic violence 	60%	<ul style="list-style-type: none"> 100% of the communities decided on various agreements and sanctions; however, all the agreements have yet to be fulfilled and/or the sanctions executed.
	5	<ul style="list-style-type: none"> The community adopts preventive health habits 	60%	<ul style="list-style-type: none"> Good progress in the care of the hands, waste management and general cleanliness of the village
Sustainable family economy	50%	<ul style="list-style-type: none"> Families expand areas of pasture cultivation and forestation 	50%	<ul style="list-style-type: none"> Great advance in the sowing of grasses (clover, raigras, alfalfa and fodder oats). 50% mortality of trees in the field due to drought, frost and clay soils.
	50%	<ul style="list-style-type: none"> Families improve their income through business according to their abilities. 	30%	<ul style="list-style-type: none"> Twenty guinea pig sheds have been generated, two for chicken breeding, and the breeding of cattle and sheep has been improved; however, these and other businesses need to be strengthened.

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Implementation of the Methodology

	<u>Evaluation</u>	
Quality of the field equipment		Excellent team with experience in past Pachamama Raymi projects
Municipal government support and investment		Municipality not very proactive, pessimistic view on productive activities, management of economic development puts obstacles.
Conducting 6 contests		So far, four competitions have been held, and the deadlines have been met.
Training, follow-up and constant motivation of the families		The team lives in the community, despite the distances from the houses, the families were accompanied.
Initial measurement of indicators (baseline)		We carried out the baseline by measuring the project's indicators, but failed to incorporate other variables of the territory: land distribution.
Measuring results in the first year		Information was collected at the end of the first year of the project. It was therefore decided to leave some communities and enter others.
4 internships to successful experiences		An internship was held at the Porcón farm, and three others to past Pachamama Raymi projects in Cusco: Ocongate and Ccarhuayo.
Constant accompanying and monitoring		
Business and forestry goals/achievements		It was not possible to plant 1000 trees per family due to extreme cold and dry conditions. Start of sustainable business.

Self-learning activities: The team

- Team of expert farmers led by Benito Pucho Chullo
- Peasant experts have the function of "role models", accompanying, training and motivating families and communities to comply with the rules of the competition.



Dario Illacachi, forestry and business expert. Elias Becerra, expert in business and healthy homes.

It is fundamental to have a high intensity of exchange of experiences and ideas of the families with the expert farmers, this will allow to sow ideas of change and improvement in the families. The results will be demonstrated in their family and community vision of the future

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Results

- Family and community protection of seedlings in the field
- Production at the central nursery in Pichigua
- Participation in community fairs
- Technical assistance for families in health and others
- Coordination with the municipality on the finalization of the third competition
- Follow-up on community savings and group business training
- Regional internship to the districts of Caycay, Ccatcca and Ocongate in forestation, water harvesting, Guinea pigs, and others
- Visit of Pachamama Raymi employees to see the works in the different communities
- Follow-up of Guinea pig breeding and new sheds



Pachamama Raymi staff supervising the application of medicine to Guinea pigs

Results - Savings groups

- The formation of savings groups was encouraged
- 10 groups were formed by 131 members
- Social goals: malnutrition, Christmas expenses



Guillermina S., member of the "Apu Muro Forgers" savings group



Ilaria J., member of the savings group "La Esperanza de Pichigua"

Results - Difficulties and their solutions

- **Problem: Dissatisfaction of some families in the competition and its operation**
 - Solution: Participation in community meetings to explain the competition process
- **Problem: Few contributions from the district municipality of Pichigua**
 - Solution: Meeting with the municipality
- **Problem: Presence of frost affecting tree seedling production**
 - Solution: Protecting the tree seedlings with clumps of earth and burlap in the nurseries
- **Problem: Families not found in their homes**
 - Solution: Visit to their rooms and assemblies
- **Problem: Drought in community nurseries**
 - Solution: Purchase of a motor pump

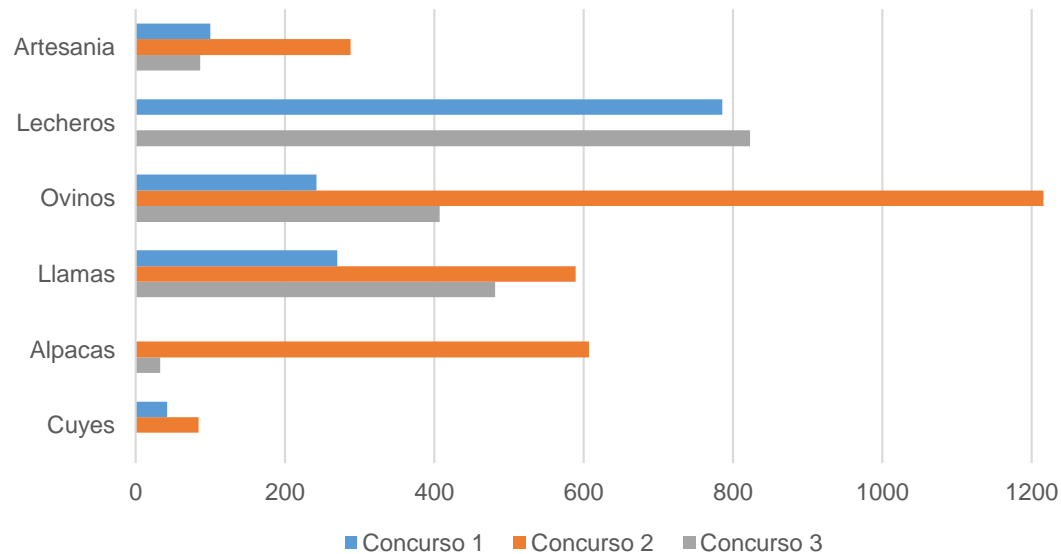


Pachamama Raymi staff explaining about the health of the sheep in the *astana*, since the owner could not be found at home

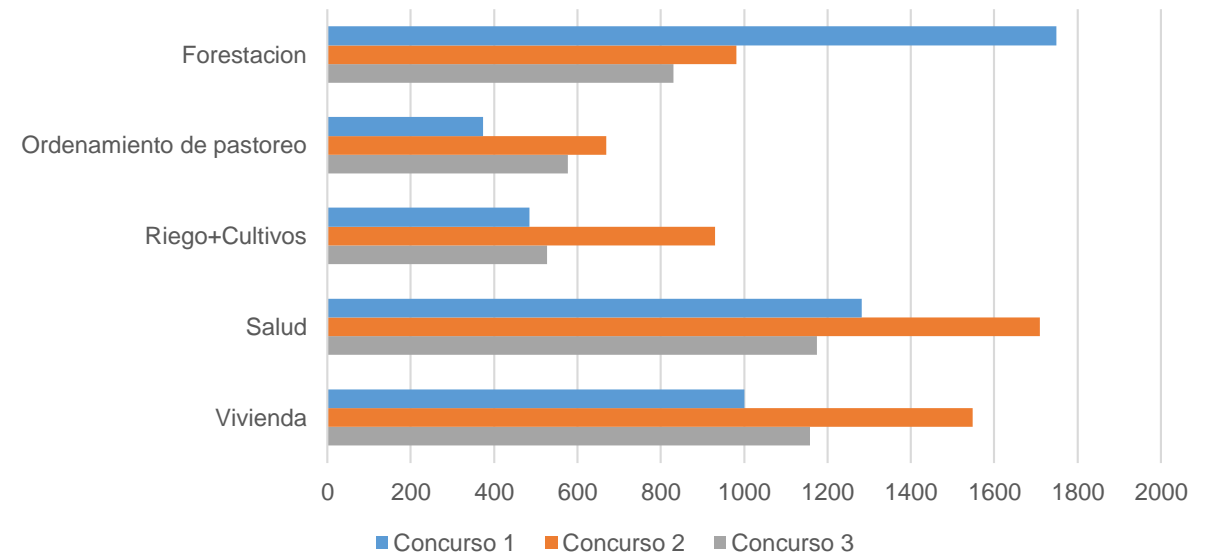
Results - Comparing scores from the three competitions

- First competition increased family forestry training
- Second competition usually results in the best score
- Third contest always results in a worse score compared to the second contest

Progress in Pichigua (Business)
Number of indicators with value ≥ 6

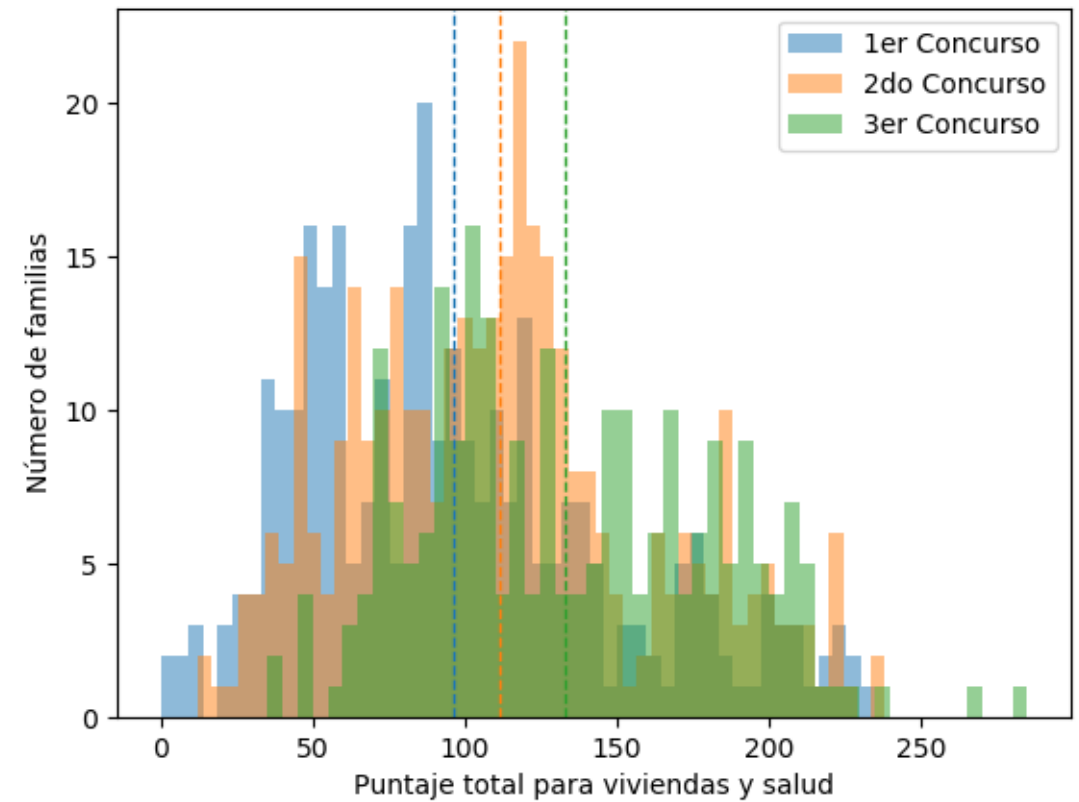
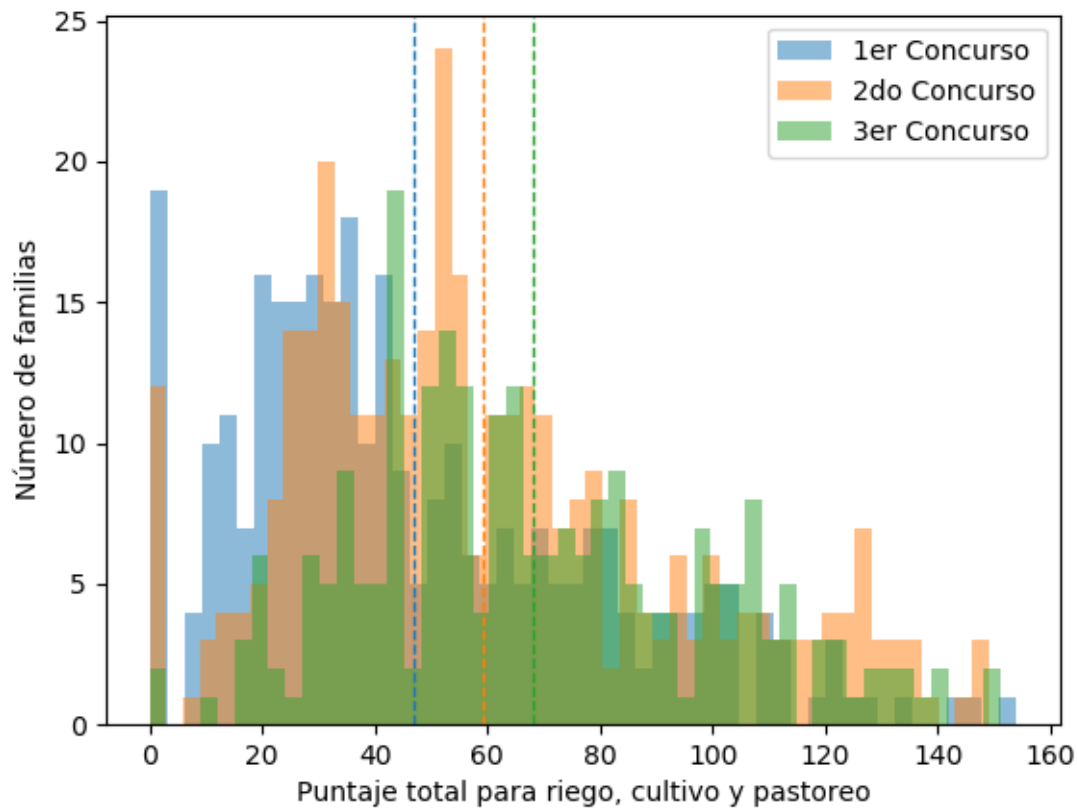


Progress in Pichigua (various)
Number of indicators with value ≥ 6



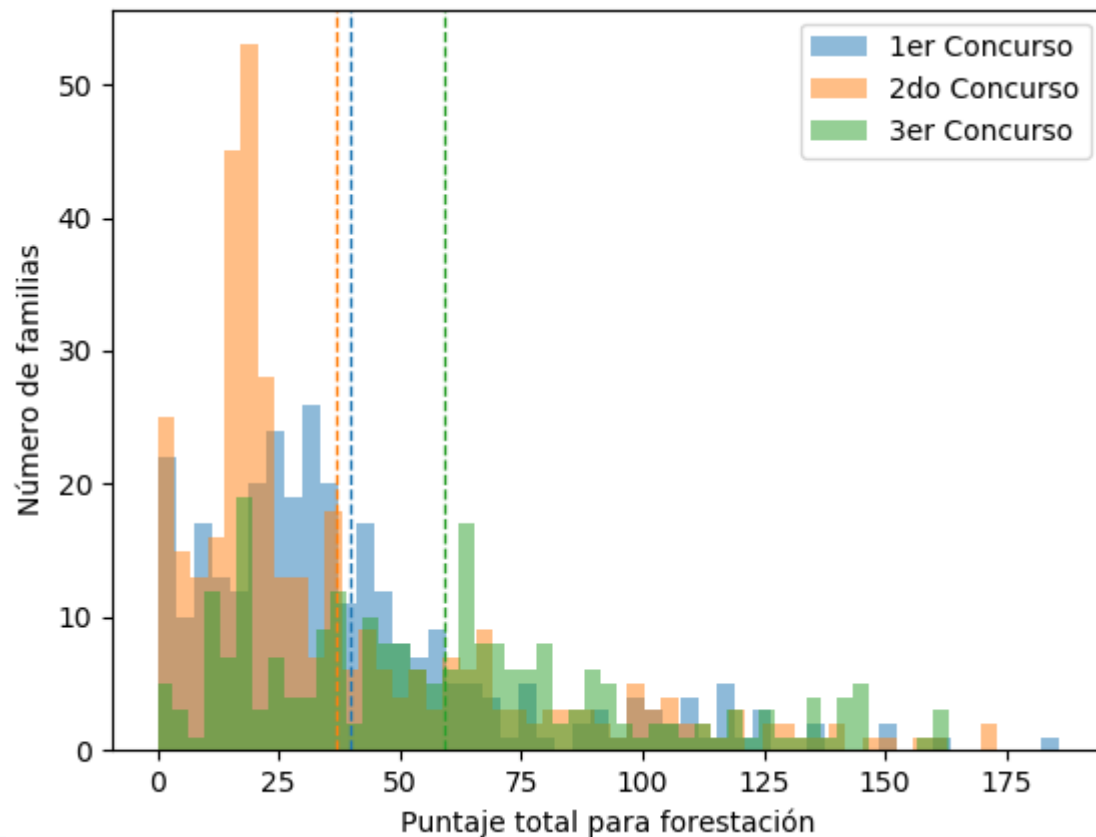
Results - Irrigation, cultivation and grazing + Housing and health

- In both charts you can see that the average total score increases over time. This demonstrates an increase in learning and adaptation of better practices because of the competitions.



Results - Forestry

- Contrary to the other scores, for afforestation, the total score decreases from the first to the second contest. Although it increases in the third contest.



A family nursery in Ccahuaya Baja demonstrating progress in forestry

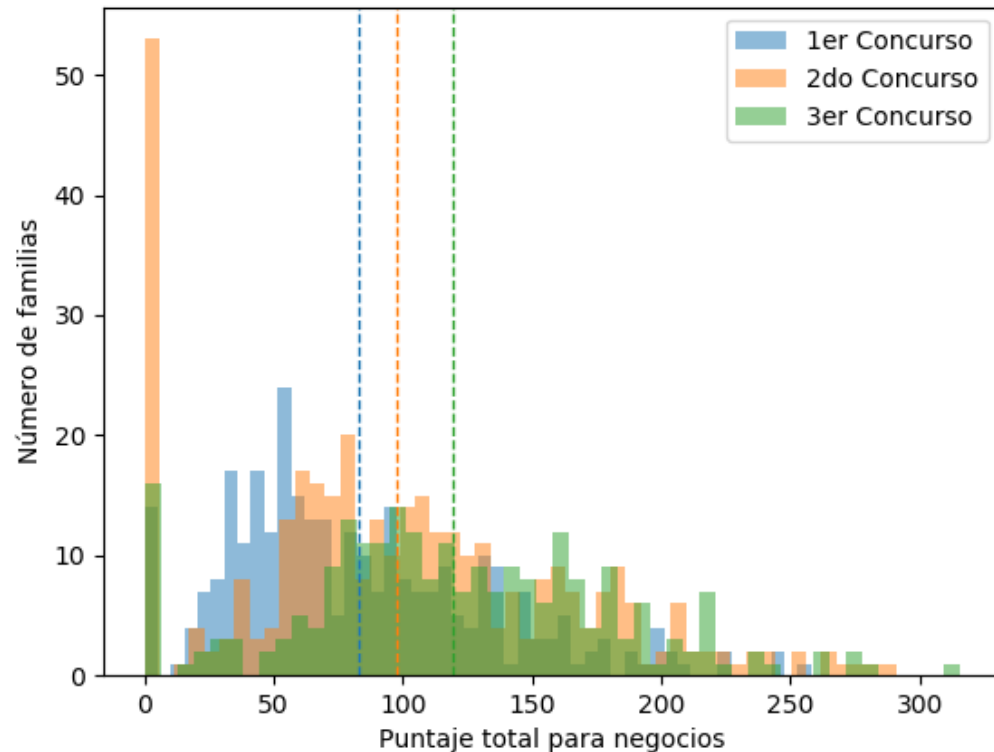
Results - Business (1)

- The amount of business increased in the second competition
- Generally, in the communities the business decreased in the third competition

Annex	1st Competition	2nd competition	3rd competition
Alccasana	75	71	-
Ccahuaya baja	62	62	55
Chañi pichigua	23	36	35
Chimpa alccasana	44	30	-
Moro alccasana	46	55	47
Nueva esperanza	20	26	17
Sillota	19	26	20
Ccollpamayo	-	0	25
Total	289	306	199

Results – Business (2)

- Competitions have participants who have no business (score = 0). That is why there are so many families with a low score.



Improved Llama business

Progress in Images - Treating Guinea Pigs

From learning, to doing: "Give a man a fish and you give him food for a day, teach him to fish and you feed him for the rest of his life"



Pachamama Raymi staff giving medicine to guinea pigs, followed by the owner doing it herself.

Progress in Pictures - Learning to Sow Prosperity!



Progress in pictures - Family vegetable gardens

- The cultivation of more than three varieties in well-constructed family gardens is promoted.



Family with their vegetable garden



Family garden with a wide variety of species, to ensure good nutrition for the family.

Progress in pictures - Construction of sheds



Construction of a shed using mud blocks. A sustainable and economical way to improve the quality of life.

Progress in pictures - Tree planting and nursery

In the first half year, approximately **438,000** trees were planted in nurseries, while **43,335** trees were planted in the field.



Mr. Wendeslao R. working in his family nursery. The trees will be planted in the mountains, according to his forestation plan.

Progress in pictures - Community Fairs

The involvement of Pachamama Raymi in community fairs is essential to increase trust between families and staff. They are also useful for spreading information about the competitions and agricultural techniques.



Pachamama Raymi staff at the community fair in Pichigua

Progress in images: Protection of the trees

Thanks to the protection of small trees with clods of earth and straw, frost damage has been reduced. That ensures more security in the investment of planting trees.



Farmers showing the protection given to their newly planted trees.

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