

Table S1. Information gathering instrument

		INFORMATION GATHERING INSTRUMENT 20220464 MADR - UTP AGREEMENT					
PART ONE: GENERAL PRODUCER INFORMATION							
1. Department:		Goal		2. Municipality			
3. Vereda:		4. Name of farm:		5. Date of interview			
6. Full name of interviewee:				7. Citizenship card number:			
8. Cell phone number:		9. E-mail address		10. Role Interviewee:			
PART TWO: PROPERTY INFORMATION							
11. Area of the property		12. Unit of measure		13. Height of the property (masl)			
14. Area of the property cultivated or used for livestock production		15. Unit of measure		16. Tenure of the property			
17. Production lines of the farm		17.1 Species/Variety		17.2 Production [Ton/year] / Planted area [Ha].		17.3 Do you have other agricultural activities?	
Prioritized productive line 1		Beef cattle				17.4 Other crops managed	
Prioritized productive line 2		Dairy farming					
Prioritized productive line 3		Dual Purpose Livestock					
Prioritized productive line 4		Cocoa					
Prioritized productive line 5		Sacha Inchi					
18. Where does the water you use on your property come from?		19. Is there a family involvement in productive activities on your farm?					
PART THREE: INFORMATION ON ASSOCIATIVITY							
20. Do you belong to a collective agricultural organization?		21. Name of the organization with which you are associated		22. Is the Collective figure to which you belong legally constituted?			
23. Are you a user/user of any of the programs/funds listed below? Mark with an X		Illicit crop substitution		Productive alliances		Cooperatives	

	Land Restitution		Contract farming		Guilds	
	Reincorporation		Payment for environmental services		Private	
	Another		Which other one?			
PART FOUR: SNIA QUESTIONS						
	Question	4	3	2	1	Assigned score
24	Do you know the articulation mechanisms in the department and your municipality for the provision of agricultural extension services?	Knows the five articulation mechanisms in the department and its municipality for the provision of agricultural extension services.	Knows between three and four articulation mechanisms in the department and its municipality for the provision of agricultural extension services.	Knows between one and two articulation mechanisms in the department and its municipality for the provision of agricultural extension services.	No knowledge of the articulation mechanisms	
25	Do you know if agricultural extension services are currently provided by any institution in your municipality, territory, or village?	At present, agricultural extension services are provided in the territory.	If the agricultural extension service is provided but not at present	Do you not know if agricultural extension services are currently provided in the territory?	No agricultural extension service is currently provided in the territory.	
26	Is the proper use of the property per the land use plan of the municipality?	It gives adequate use to the property and IF it is under the land use plan of the municipality.	It gives an adequate use to the property but it is NOT by the land use plan of the municipality.	It gives an adequate use to part of the property but it is NOT per the land use plan of the municipality.	NO, the property is not used in an appropriate manner	
27	Do you, as a producer, know if your municipality promotes associativity or the formation of agricultural associative groups; if they exist, do they have the proper institutional support?	If associations exist, associativity is promoted, and if they have accompaniment	If associations exist, they are promoted but do not receive any support	If associations exist, they are not promoted and do not receive accompaniment	There are no associations and the formation of associative groups is not promoted.	
28	Does the municipality promote productive transformation and new production methods, and is there support for the commercialization and marketing of products?	Whether productive transformation and new production methods are	If productive transformation and new production methods are promoted,	The productive transformation and new production methods are	There is no promotion of productive transformation, nor new	

		promoted, whether there is support for the commercialization and marketing of products.	there is no support for the commercialization and marketing of products.	NOT promoted, but there is support for the commercialization and marketing of products.	production methods, and there is no support for the commercialization and marketing of products.	
29	Is there collaborative work between national, territorial, municipal, and trade institutions, academia, and research centers for the provision of agricultural extension services, with which innovation processes can be generated?	If there is collaborative work between national, territorial, municipal, trade union, academic, and research centers for the provision of agricultural extension services, with which innovation processes can be generated.	If there is collaborative work between some of the national, territorial, municipal, trade union, academic, and research centers for the provision of agricultural extension services, with which innovation processes can be generated.	There is collaborative work between some of the national, territorial, municipal, trade union, academic, and research centers for the provision of agricultural extension services, but they do not generate innovation processes.	There is no collaborative work for the provision of agricultural extension services.	
30	They have technical assistance from a private individual/state/guild to provide agricultural extension services to their production units.	It has technical assistance from the following three actors/agents: individuals/state/guilds to provide agricultural extension services to their productive unit.	It has technical assistance from at least two of the following actors/agents: private individuals/state/Gremio to provide agricultural extension services to their productive unit.	It has technical assistance from at least one of the following actors/agents: individuals/state/Gremio to provide agricultural extension services to their productive unit.	They do not have technical assistance in their production unit.	
31	As a producer, he participates in spaces in which participatory research processes are developed to improve production.	If it participates in all spaces in which participatory research processes are developed to improve production.	Participates on several occasions in spaces in which participatory research processes are developed to improve production.	It rarely participates in spaces in which participatory research processes are developed to improve production.	Does not participate in spaces in which participatory research processes are developed.	

32	As a producer, do you consider that the institutions present in your municipality promote and execute productive diversification programs to obtain or establish food security and sovereignty processes?	The institutional framework promotes the diversification of production on producers' properties intending to achieve or establish food security and sovereignty processes.	The institutional framework promotes the diversification of production on producers' farms but does not achieve food security and sovereignty.	Other actors/agents promote productive diversification on the producers' farms without focusing on food security and sovereignty processes.	Productive diversification is not promoted on the producers' properties to obtain or establish food security and sovereignty processes.	
33	As a producer, do you consider that in your municipality UMATA or whoever takes its place, carries out management processes to articulate with public and private institutions in the spaces available to deal with agricultural sector issues: Actors/agents: Sectional Agricultural Development Councils CONSEA, Science, Technology and Innovation Boards Innovation Networks	In the municipality UMATA does carry out management processes to articulate with all public and private institutions (actors/agents) in the spaces set up to deal with agricultural sector issues: Sectional Agricultural Development Councils.	In the municipality, UMATA does carry out management processes to articulate with 2 stakeholders/agents:	In the municipality, UMATA does carry out management processes to articulate with one of the actors/agents:	In the municipality, UMATA does not carry out management processes to articulate with public and private institutions in the spaces available to address agricultural sector issues.	
34	Institutions related to the agricultural sector in their region work on actions to implement research, technological development, technology transfer, sanitary and phytosanitary protection, and food safety activities.	The institutions work on actions to implement research, technological development, technology transfer, sanitary and phytosanitary protection, and food safety activities.	The institution works on actions to implement at least 3 of the following activities: Research, technological development, technology transfer, sanitary and phytosanitary protection, and food safety.	The institution works on actions to implement at least 1 of the following activities: Research, technological development, technology transfer, sanitary and phytosanitary protection, and food safety.	The institutions are not working on actions to implement research, technological development, technology transfer, sanitary and phytosanitary protection, and food safety activities.	

35	If agricultural extension services are provided in the municipality or department, they are coordinated with academia and research institutes.	Agricultural extension services are provided in the municipality or department and are coordinated with academia and research institutes.	In the municipality or department, the agricultural extension service is provided and is articulated only with the academy.	In the municipality or department, the agricultural extension service is provided but it is NOT articulated with academia or research institutes.	Agricultural extension services are NOT provided in the municipality or department.	
36	As a producer, do you consider that the Agricultural Extension Service provided in your region is following the needs of the productive sectors that currently exist?	The agricultural extension service is provided in the region and is in line with the needs of the productive sectors that currently exist.	The agricultural extension service is provided in the region and is partially in line with the needs of the productive sectors that currently exist.	The agricultural extension service is provided in the region but is NOT in line with the needs of the productive sectors that currently exist.	Agricultural extension services are not provided in the region.	
37	As a producer, do you consider that the municipality generates spaces or opportunities for young people to be trained to promote generational replacement to generate a well-trained human resource?	The department's young people participate in training opportunities to promote generational replacement to generate a well-trained human resource.	The department's young people frequently participate in training programs to promote generational replacement to generate a well-trained human resource.	The department's young people seldom participate in training opportunities to promote generational replacement to generate a well-trained human resource.	The department's young people do NOT participate in training opportunities to promote generational replacement to generate a well-trained human resource.	
38	The municipality promotes a culture of agricultural innovation to generate products with some type of transformation or agroindustrialization.	The municipality promotes a culture of agricultural innovation to generate products with some type of transformation or	In the municipality, the culture of agricultural innovation is promoted to generate at least one product with some type of transformation or	The municipality promotes a culture of agricultural innovation but does not generate products with any type of transformation or	The culture of agricultural innovation is NOT promoted in the municipality.	

		agroindustrialization.	agroindustrialization.	agroindustrialization.		
39	In the municipality, efforts are being made to ensure that producers are continuously trained by institutions that are part of the agricultural sector, such as SENA, universities, unions, UMATAs, ICA, Secretaries of Agriculture, etc., to provide solutions to the different problems that arise with the production units and to carry out prevention activities.	In the municipality, efforts are made to ensure that producers receive continuous training with the following 6 actors/agents: .. SENA. Universities. Guilds, . UMATAs, . ICA, . Agriculture Secretaries, etc.; to provide solutions to the different problems that arise with the productive units and also to carry out prevention activities.	The municipality does make arrangements for producers to receive continuous education and training with 3 to 5 of the following actors/agents: . SENA, . Universities. Trade Unions. UMATAs, ICA, . Agriculture Secretariats, etc; to provide solutions to the different problems that arise with the productive units and also to carry out prevention activities.	The municipality does make arrangements for producers to receive continuous education and training with 1 to 2 of the following actors/agents: . SENA, . Universities. Trade Unions. UMATAs, ICA, . Agriculture Secretariats, etc; to provide solutions to the different problems that arise with the productive units and also to carry out prevention activities.	The municipality does not take steps to ensure that producers receive continuous education and training from institutions that are part of the agricultural sector.	
40	As a producer, do you have the possibility or do you consider that in the region there are the means for your children to enter technical, technological or higher education, to be trained in subjects related to the agricultural sector and that they can contribute to regional development?	As a producer, whether there are means for their children to enter technical, technological, or higher education, to be trained in subjects related to the agricultural sector, and that can contribute to regional development.	As a producer, whether there are any means for their children to enter technological or higher education, to be trained in subjects related to the agricultural sector, and that can contribute to regional development.	As a producer, there are some means for their children to enter only technical education to be trained in subjects related to the agricultural sector, and that can contribute to regional development.	As a producer, there are NO means for your children to enter technical, technological, or higher education.	

41	As a producer, you know which institutions provide agricultural extension services for your crops.	More than thirteen actors provide agricultural extension services for their crops.	Between seven and twelve of the stakeholders provide agricultural extension services for their crops.	Between 1 and 6 of the stakeholders provide agricultural extension services for their crops.	None of the stakeholders provide agricultural extension services for their crops.	
42	He believes that the institution in charge of providing agricultural extension services in the municipality has good professionals and their training is in line with the demands of the agricultural sector in the region.	The institution in charge of providing agricultural extension services has professionals with training in line with the demands of the agricultural sector in the region.	The institution in charge of providing agricultural extension services has few professionals with training in line with the demands of the region's agricultural sector.	The institution in charge of providing agricultural extension services has few professionals and no training following the demands of the region's agricultural sector.	No knowledge/existence of institutions in charge of providing agricultural extension services	
43	It has participated in projects with NARS stakeholders in the region related to R&D&I and technology transfer and has benefited from the results of the projects.	It has participated in projects with NARS stakeholders in the region related to R&D&I and technology transfer and has benefited from	It has participated in projects with NARS stakeholders in the region related to R&D&I and technology transfer but has NOT benefited from instruments.	Knows NARS projects and actors but has NOT benefited from or participated in concrete initiatives related to R&D&I and technology transfer.	No knowledge of projects and actors in the region related to R&D and technology transfer	
44	Do you consider that the projects, instruments, and actors of the NARS have oriented, planned, implemented, and evaluated R&D&I actions and technology transfer for the benefit of your productive unit?	Knows projects, instruments, and actors of the SNIA, considers that have oriented, planned, implemented , and evaluated R&D&I and technology transfer actions for the benefit of its productive unit.	Knows projects, instruments, and actors of the SNIA and considers that they have oriented, planned, and implemented R&D&I and technology transfer actions.	Knows projects, instruments, and actors of the SNIA and considers that they have only oriented and planned R&D&I and technology transfer actions.	No knowledge of NARS projects, instruments , and actors related to R+D+i and technology transfer.	

45	Have you participated in training programs or have you benefited from tools with NARS stakeholders in the region?	Participated in training programs and has benefited from tools with NARS stakeholders in the region.	Has participated in training programs but has NOT benefited from tools with NARS stakeholders in the region.	Knows of training programs but has NOT benefited from instruments with the NARS actors in the region.	No knowledge of training/training programs, tools, or actors related to training and capacity building.	
46	Do you know of any projects that have had a direct impact on the R&D&I process in your production unit through the planning, implementation, financing, and evaluation of training and capacity-building actions?	Knows the projects and considers that they have planned, implemented, financed, and evaluated training and capacity-building actions that have a direct impact on the R&D&I process in its productive unit.	Knows the projects and considers that they have planned and implemented training and capacity-building actions that have a direct impact on the R&D&I process in its productive unit.	Knows projects and considers that they have only planned and capacity-building actions that have a direct impact on the R&D&I process in their productive unit.	No knowledge of projects related to training and capacity building.	
47	Do you as a producer develop/participate in activities to improve sustainability and environmental protection based on sustainable models?	Several programs exist for the region's producers to improve working conditions and are successfully based on sustainable models.	There are some programs for the region's producers to improve working conditions and they are scarcely based on sustainable models.	Programs for the region's producers to improve working conditions are scarce and are not based on sustainable models.	No programs for the region's producers to improve their working conditions	
48	Do you apply policies/actions to implement sustainable models?	Three or more policies/actions are implemented	At least two policies/actions are implemented	At least one policy/action implemented	No sustainable policies/actions implemented	
49	Does your production unit have the support of institutions for the promotion of sustainability (social, environmental, economic)?	Your production unit is supported by organizations for the promotion of social,	Your production unit is supported by organizations for the promotion of sustainability	Your production unit is supported by organizations for the promotion of sustainability	Your production unit does NOT have support organizations for the promotion	

		environmental, and economic sustainability.	in two components (social, environmental, and economic).	in a single component (social, environmental, or economic).	of sustainability.	
50	Is there active participation of the stakeholders in the development of sustainability-based innovation with their productive unit?	Active stakeholder participation in the development of innovation-based sustainability is present and sufficient	Active stakeholder participation is presented for the development of innovation-based sustainability but it is NOT enough. <segment	Very little active stakeholder participation is presented for the development of innovation-based sustainability >	No active participation of stakeholders in the development of innovation-based sustainability.	
51	Does the municipality have sustainable guidelines in favor of environmental protection and conservation?	There is an evident promotion of sustainable guidelines in favor of environmental protection and conservation.	There is a promotion of sustainable guidelines in favor of environmental protection and conservation, but it is not sufficiently evident.	There is little promotion of sustainable guidelines in favor of environmental protection and conservation.	No sustainable guidelines in favor of environmental protection and conservation are promoted.	
52	Are environmental awareness strategies implemented in the communities for the sustainability of the region?	Various strategies are implemented to raise awareness among the communities in the area of influence on sustainability in the region and have a high impact on people's lifestyles.	Awareness-raising strategies are implemented in the communities of the area of influence on sustainability in the region and have a medium impact on people's lifestyles.	Few strategies are implemented to raise awareness of sustainability in the region among the communities in the area of influence, but they do not have an impact on people's lifestyles.	No strategy is implemented to raise awareness of sustainability in the region among the communities in the area of influence.	
53	Do you as a producer implement activities to improve your productive and technological practices to increase your productivity and strengthen sustainability in your productive unit?	There are sufficient technological innovations to strengthen sustainability in your production unit.	There are some technological innovations to strengthen sustainability in the production unit.	There are few technological innovations to strengthen sustainability in the productive units.	There is no technological innovation to strengthen sustainability in the productive unit.	

54	Are quality education, research, and knowledge dissemination in innovation for sustainable purposes promoted in the region's educational institutions?	There is diverse evidence of quality education, research, and knowledge dissemination in innovation for sustainable purposes the educational organizations in the region and it is highly efficient.	There is evidence of quality education, research, and knowledge dissemination in innovation for sustainable educational organizations in the region but it is not sufficiently efficient.	There is little quality education, research, and knowledge dissemination in innovation for sustainable purposes in the region's educational organizations.	There is no quality education, research, and knowledge dissemination in innovation for sustainable purposes in any educational organization in the region.	
55	What strategies of circular economy do you implement in your production unit?	It has applied high circularity strategies: Reject, Rethink, and Reduce with a focus on "prevent" in products.	He has applied half-circularity strategies: Reuse, Repair, Refurbish, Remanufacture, Retrofit focused on "mitigating" materials and/or parts and "preventing" in products.	It has applied low-circularity strategies: Recycle and recover with a focus on mitigating materials	Has not applied circularity strategies	
56	Does your production unit have a record of your machines/equipment and production methods?	The production unit has a record of its machines, software, and production methods.	The production unit has a record of its machines and software.	The production unit has only a record of its machines.	The production unit does NOT have a record of its machines, software, and production methods.	
57	Do people in your productive unit constantly participate in training/qualification processes on your productive sector and new business models?	The people in the productive unit are constantly participating in training/qualification processes in their productive sector and new business models.	The people in your production unit constantly participate in training/qualification processes on new business models.	The people in your productive unit sporadically participate in training/qualification processes in your productive sector.	The people in your production unit do NOT constantly participate in training/qualification processes.	

58	In your production unit are there people directly involved in R&D&I activities and do you establish strategic alliances with NARS stakeholders?	In your production unit, there are people directly involved in R&D&I activities and establishing strategic alliances with stakeholders.	In your production unit, there are people directly involved in R&D&I activities.	In your production unit, some people sporadically seek strategic alliances.	In your production unit, there are NO people directly involved in R&D&I activities and in establishing strategic alliances with stakeholders.	
59	Has your production unit participated in research and technological development projects, which have allowed you to increase your productivity?	Your production unit has participated in research, technological development, and innovation R&D&I projects and has increased its productivity.	Your production unit has participated in research, technological development, and innovation R&D&I projects but has NOT increased its productivity.	Your production unit has participated only in research projects with no direct impact on its productivity.	Your production unit has NOT participated in research, technological development, and innovation projects.	
60	Does your production unit make use of Information and Communication Technologies (ICT) as a tool for decision-making for your production?	Uses more than five ICT tools to make production decisions	Makes use of at least three ICT tools for production decision-making	Makes use of at least one ICT tool for decision-making for production.	Does not make use of more than five ICT tools in its production.	
61	As a producer, do you plan agricultural production according to crop or livestock needs and commercial projections?	Agricultural production is planned according to crop/livestock needs and commercial projections.	Agricultural production is planned according to the needs of the crop/livestock operation.	Agricultural production is planned but NOT according to crop/livestock needs.	No planning of agricultural production	
62	Do you as a producer carry out agricultural or livestock activities according to technical criteria?	Permanent agricultural and/or livestock activities are carried out following technical criteria	Occasional agricultural and/or livestock activities are carried out according to technical criteria.	Agricultural and/or livestock activities are carried out without technical criteria.	No agricultural and/or livestock activities	

63	As a producer, he carries out the activities of establishment, crop maintenance, and harvesting as required by the production system.	Establishment, crop maintenance, and harvesting activities are carried out permanently, following the requirements of the production system.	Occasionally, establishment, crop maintenance, and harvesting activities are carried out as required by the production system.	Establishment and crop maintenance activities are carried out, but they are NOT per the requirements of the production system.	No establishment, crop maintenance, and harvesting activities are carried out.	
64	As a producer, do you organize the agricultural tasks according to the productive cycle and the requirements established for the crop?	Is the agricultural work organized according to the productive cycle and the requirements established for the crop?	Agricultural work is organized according to the productive cycle.	Agricultural work is organized but NOT by the productive cycle and the requirements established for the crop.	Agricultural work is not organized	
65	Have you had a soil analysis done on your farm in the last 2 years, which has been reviewed and interpreted by a professional, with the respective recommendations?	In the last 2 years, a soil analysis has been performed, which has been reviewed and interpreted by a professional, with the respective recommendations.	In the last 2 years, a soil analysis has been performed, which has only been reviewed by a professional.	A soil test has been performed in the last 2 years but has not been reviewed and interpreted by a professional.	A soil analysis has NOT been performed in the last 2 years.	
66	Do you perform crop nutrition according to a fertilization plan that is under the nutritional needs of the crop and soil characteristics?	Crop nutrition is carried out according to a fertilization plan that is under the nutritional needs of the crop and the characteristics of the soil.	Crop nutrition is carried out according to a fertilization plan that is by the nutritional needs of the crop but NOT following the characteristics of the soil.	Crop nutrition is carried out according to a fertilization plan but NOT according to the nutritional needs of the crop and the soil characteristics.	Crop nutrition is not carried out according to a fertilization plan.	
67	Do you carry out nutrition in your livestock operation, according to a plan that is following the nutritional needs of the species you manage?	Nutrition is permanently carried out in your livestock operation,	Occasionally nutrition is performed on your livestock farm, according to a	Nutrition is performed on your farm but NOT according to a plan that is on	No nutrition is performed on your livestock operation.	

		according to a plan that is per the nutritional needs of the species you manage.	plan that is under the nutritional needs of the species you manage.	the nutritional needs of the species you manage.		
68	You record the activities and work carried out on your farm.	The activities and work carried out on the property are permanently recorded and carried out	Occasionally the activities and work carried out on the property are carried out and recorded.	The activities and work carried out on the property are carried out but NOT recorded.	No development activities and work are carried out	
69	In the last 2 years, has your farm had a water analysis that has been reviewed and interpreted by a professional, indicating whether the water is suitable for human consumption and also for the activities of the productive unit?	In the last 2 years, a water analysis has been performed, which has been reviewed and interpreted by a professional, to indicate if the water is suitable for human consumption and also for the activities of the productive unit.	In the last 2 years, a water analysis has been carried out, which has been reviewed and interpreted by a professional, indicating whether the water is suitable for one of the following uses: human consumption or activities of the productive unit.	In the last 2 years, a water analysis has been performed but it has NOT been reviewed and interpreted by a professional to indicate if the water is suitable for human consumption and also for the activities of the productive unit.	In the last 2 years, you have NOT performed a water analysis.	
70	Do you carry out integrated pest and disease management on your farm considering the state of the crop, the harvested product, and the environmental conditions of the area?	Integrated pest and disease management is carried out at its production unit, taking into account the state of the crop, the product harvested, and the environmental conditions of the area.	Integrated pest and disease management is carried out in your production unit considering the state of the crop, and the harvested product but NOT the environmental conditions of the area.	Integrated pest and disease management is carried out in your production unit but NOT considering the state of the crop, the harvested product, and the environmental conditions of the area.	Integrated pest and disease management is NOT carried out in your production unit.	

71	The production system on your farm is aimed at obtaining crops of agricultural products that meet technical parameters (product data sheets) that comply with market requirements.	The production system on your farm is aimed at obtaining crops of agricultural products that meet technical parameters (product data sheets) and comply with market requirements.	The production system on your farm is geared to obtain crops of agricultural products that meet technical parameters (product data sheets) but do NOT meet market requirements.	The production system on your farm is geared to obtain crops of agricultural products that do NOT meet technical parameters (product data sheets) and that comply with market requirements.	The production system on your farm is NOT geared to obtain agricultural product harvests.	
72	On your farm you carry out some type of transformation with the products obtained from your production systems, taking into account the technical-sanitary regulations and market requirements.	Your production unit carries out some type of transformation with the products obtained from your production systems, taking into account the technical-sanitary regulations and market requirements.	Your production unit carries out some type of transformation with the products obtained from your production systems, taking into account the technical-sanitary regulations.	Your production unit carries out some type of transformation with the products obtained from your production systems, but it does NOT take into account the technical-sanitary regulations and market requirements.	Your production unit does NOT carry out any type of transformation with the products obtained from your production systems.	
73	<p>If you have an agricultural extension service, how many times per month do you visit it?</p> <p>When the extensionist leaves you his recommendations, do you understand them?</p> <p>Does the extensionist follow up on recommendations from previous visits?</p> <p>According to the recommendations, have you improved your farm's income?</p>	There is one visit per month from the agricultural extension service; recommendations are generated and understood, recommendations are followed up in writing and income is improved.	There is one visit per month from the agricultural extension service; recommendations are made, which are understood, and recommendations are followed up in writing, but there is NO improvement in income.	There is 1 visit per month from the agricultural extension service, but NO recommendations are generated, NO follow-up is made to the recommendations in writing, and NO improvement in income is achieved.	There are no agricultural extension service visits.	

