ASSESSMENT REPORT

TRANSFORMATIONAL CHANGE IMPACTS OF THE CITIZENS OF THE FUTURE PROJECT

DISCLAIMER

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List of Acronyms

CoF	Citizens of the Future
ICAT	Initiative for Climate Action Transparency
LAC	Latin American
PNDIC	National Policy for the Comprehensive Development of Cities
SASA	Servicios Ambientales S.A.
SDGs	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Programme
WRI	World Resources Institute

Chapter 1: General information

The scope of the assessment is to identify the ex-ante transformational change impacts of the Citizens of the Future (CoF) Project, which aims to provide children and youngsters valuable skills to tackle climate change, build up resilience and face other future challenges. The study has been conducted by Estefania Arteaga and Liliana Roca from Servicios Ambientales S.A. (SASA[1]) in Bolivia, with the support of Karen Holm Olsen (UNEP-DTU Partnership) and David Rich (WRI).

The study primarily follows the steps outlined in the Transformational Change Guidance developed by the Initiative for Climate Transparency (ICAT), and, for complementary steps, it follows the guidelines for Sustainable Development and Stakeholder Participation from ICAT. The assessment considered a mix of qualitative and quantitative approaches to evaluate the impacts of the CoF Project, and determine its transformational impact in the current education system and approaches in 1 school in the city of Tarija from Bolivia.

The assessment focusses mainly on the transformational potential to be achieved at a term of 12 months (1 year) in as it is the piloting phase of the project. Considering this timeframe, we expect to improve the original design of the CoF to maximize its transformational potential. Nonetheless, we consider a timeframe of 20 years to oversee the transformation potential of the CoF in light of the involvement and support from a wider range of stakeholders.

The results of this assessment will be shared with prospective funding sources, project team members, potential participants (children, teachers, principals from schools) in order to scale up the scope of the project.

TABLE 1. GENERAL INFORMATION ABOUT THE ASSESSMENT

General information	Assessment information
Name of the policy or Project assessed	Citizens of the Future
Person(s)/organisation(s) that did the assessment	Estefania Arteaga – Servicios Ambientales S.A. Liliana Roca – Servicios Ambientales S.A.
Date of the assessment	January 2019 – April 2019
Whether the assessment is an update of a previous assessment, and if so, links to any previous assessments	Not applicable
Intended audience(s) of the assessment	Prospective funding sources, project team members, children of schools

Source. Template Assessment, elaborated by Servcios Ambientales S.A., 2019.

Objectives

The assessment was developed according to the methodology and steps outlined in the [ICAT Transformational Change Guidance](#) with the objective to analyse the extent of transformational change expected from the implementation of the Citizens of the Future project as a non-formal education

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[1] Servicios Ambientales S.A. (SASA) is a Bolivian company with 20 years of experience in the development of projects related to climate change in the LAC Region. More info http://www.sasa-bolivia.com

approach focused on the creation of conditions for human development in children, through the application of technological tools and practices that promote behavioural changes and contribute to the construction of human capital with values and practices that allow them to be part of an integral sustainable and resilient development.

Consequently, the results of the study will inform the design of the CoF to boost its transformational impact, and enhance the project selection by providing a better understanding of the extent of transformation expected by the implementation of the CoF. It is expected that the assessment will provide with recommendations and observations to improve the project's methodology and activities, to magnify the CoF expected outcomes and the transformational potential identified.

Key concepts, steps, and assessment principles

Principles

As described in Chapter 4 from the Transformational Change Guidance, the selection of principles is useful to underpin and guide the impact assessment process. For the present assessment the following principles were included:

- **Relevance**. Ensure the assessment serves the decision-making needs and that information and the activities proposed and impacts identified are relevant to achieve the goal.
- **Consistency.** Use consistent approaches and data collection methods to allow for meaningful results and performance tracking over time. Also guarantee consistency of information comparing the data collected from first grade and second grade sources.
- **Transparency.** Provide clear and complete information for stakeholders to determine the credibility and reliability of results. Disclose all relevant methods, data sources, assumptions and uncertainties as far as feasible.

Assessment description

The development of the assessment followed key steps (as shown in Figure 1), starting with the gathering of data and information through research to develop an understanding of current national and local educational frameworks and systems, and identify and select relevant stakeholders involved in the educational and environmental context of the city of Tarija. This contextual information was collected from primary and secondary sources as on-field interviews and workshops, and official web pages, strategic public documents, academic publications, among others.

Research and stakeholder identification

Filling of the Assessment Template

Validation of information through stakeolder participation

Adjustment of the template with stakeholder feedback

Elaboration of the assessmet report

FIGURE 1 ASSESSMENT KEY STEPS

For the assessment we first described and filled the Assessment Template, where were able to identify the objectives, the vision, the impacts, the relevant transformational characteristics that can be affected with the Project and determine indicators that will enable us to track the Project according to the ICATT Sustainable Development Guidance. This exercise helped us to define and contextualize the CoF according to the current situation of the education in the city of Tarija and the country, and update the CoF components and add new ones, upgrade the CoF methodology suggested, and bring up to date the real conditions to operate the pilot project in the city of Tarija.

After completing the template, the team validated the information and the assumptions considered in the vision and the expected impacts with stakeholders and experts through interviews and a workshop developed in the city of Tarija. The assessment team considered essential the active participation of stakeholders and experts to receive and include their expert insights and feedback in the design of the CoF project, moreover, to accurately assess its transformational change potential according to the local context.

The outcome of this process showed the acceptance and support from all the participants and stakeholders identified, who coincided in the identified vision and objectives of the CoF as a transformational and necessary initiative to be implemented in order to improve children's resilience and boost their potential to contribute to the development of their communities in the future.

As a result of this process, we modified/updated the CoF Project design considering the most relevant suggestions from stakeholders, such as involving parents in some activities and generating identity with local contexts. These observations are included in the updated Assessment template and discuss in the current report in Chapters 5 and 6.

The assessment considers an ex-ante prospective (forward-looking), as the project has yet to be implemented, therefore this ex-ante study will assess the expected future impacts of the CoF in order to Improve policy selection and design by providing a better understanding of the extent of transformation expected by the implementation of the CoF.

Stakeholder participation

Considering the ICAT Stakeholder Participation guidance, the assessment was developed in close coordination with stakeholders. The level of participation can be categorized as mid-level, as the assessment was developed with stakeholders throughout the process to ensure that stakeholder perceptions and inputs are consistently understood and considered.

Among the most important stakeholders identified are:

  I. Municipal government of Tarija: Municipal Secretariat of Environment and Territorial Management, Education Directorate and the Municipal Secretariat for Women and Family.
 II. District Direction of Education
III. Regional Direction of Education of Tarija
 IV. Schools principals, teachers and students
  V. Family parents' boards
 VI. Universities
VII. Ministry of Education

As previously mentioned, the engagement activities carried on with stakeholders gave us the opportunity to better understand the context of the city of Tarija, identify the expected impacts from the Project from the stakeholder point of view, and gather their expert opinion on the mechanisms to implement the Project and identify the best option, as well as how relevant is for them this initiative and if they are willing to support it.

The process of stakeholder's participation during this assessment was developed through the following steps:

- Make initial identification of stakeholder groups and establish a first contact (via email, phone call)
- Provide all relevant information to stakeholders
- Stablish meeting and field-visit schedules
- Conduct semi-structured interviews and workshop
- Use information to improve the impact assessment
- Provide feedback to stakeholders on how their input has been used

The information and opinions were gathered through recorded interviews, some surveys and a workshop which took place in the city of Tarija, with the participation of relevant stakeholders from the national government, the municipal government, schools and the academia, giving us their insights and feedback. This scheme provides with multiple opportunities for stakeholders to participate in the assessment. A complete list of stakeholders engaged in the assessment and field visits records is attached in Annex 1.

Chapter 2: Describing the Project and the transformational change vision

Description of the Project

Education is one of the fundamental pillars to achieve the Sustainable Development Goals (SDGs). Current trends seek to promote education focused on a more rounded enlightening educational approach to foster citizens resilient to climate change in the most vulnerable areas. In this context, cities -due to the increase of urban population, social and economic inequality, discrimination, unplanned urban growth, rural-urban migration, added to climate change scenarios-, become increasingly vulnerable territories.

Addressing this problem requires promoting a change in habits and paradigms, generating capacities, skills and tools to develop a more integrated, aware and resilient population to climate change and, consequently, less vulnerable. This preparation requires a global holistic approach, but also territorial, considering the risks, vulnerabilities and assets of the cities as their social, demographic, political and cultural characteristics.

Under this framework, SASA has found a need, and therefore an opportunity, to strengthen the citizen awareness processes on issues of climate change as a strategy to increase emergency response capacity, create a population more resilient to climate change, and assist the design and successful implementation of municipal public policies. Samuelsson (2008) highlights the importance of children and young people in the processes of transformation towards sustainable development, becoming key players in society. To address this identified need, SASA integrates state-of-the-art education

methodologies and approaches with their work expertise in cities into a transformational education initiative: the CoF.

The CoF is an education initiative which aims to provide children with valuable skills and tools that will promote behaviour transformation and contribute to the development of human capital which lead to an integral, sustainable and resilient development.

The CoF Project is inspired by the foundations of the book "EarthEd: Rethinking Education on a Changing Planet[2]" (Figure 2), an initiative of the World Watch Institute that aims to provide crucial skills for the new generations, considering that they will be the ones who will face new realities and climatic challenges in the near future. In order to achieve this, it will be necessary to introduce the use of innovative and creative teaching methods (such as outdoor schools in direct contact with nature), from a comprehensive approach, which allows young people to see a problem from several "lenses".

Source. EarthEd, 2017.

The Project is also inspired by the UNESCO initiative "Education for Sustainable Development", 2005-2014, whose objective was to transform the policies and practices of the general education system, through integral and diverse approaches. The CoF design incorporates tools to foster critical thinking and clarify the individual values of students as young people and children.

The Project suggests a non-traditional educational approach, translated into learning experiences where children obtain knowledge from experiencing through games and entertaining activities. This approach is supported by Edgar Dale's learning model called the "Cone of Learning", which demonstrates that people retain 90% of what they learn by doing (Fannon, 2004).

Added to this basis, the CoF recognizes the need to change current children's learning evaluation processes. Through the CoF, SASA promotes a methodology that assess children performance based on their progress during activities not tests; this helps to clearly identify knowledge retention and capacity development that cannot be expressed by a number. This improves children's confidence and potentiates their innate abilities and capabilities. With this in mind, to guarantee a transformational non-traditional education, classrooms infrastructure must change too, that is why the Project encourages the implementation of outdoor classrooms and collaborative spaces for children, to support interaction among kids and their environment.

Considering all of these aspects, the CoF is organized in 5 main topics developed as components with an *inside-to-outside* approach, and considering climate change, resilience and capacities development as crosscutting topics. In a transversal way, the project includes the topics of Climate Change, Resilience and Capacity Development. All the components comprise different types of activities, with a non-traditional

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[2] More information available at http://earthed.info/about/

focus, so children can learn by *playing* and *doing*. In this way, they also develop critical thinking and other valuable life skills (:

1. **Humanology (personal growth).** The component aims to provide children with a deep understanding of themselves, as well as their own worth. Furthermore, it introduces tools and skills for emotion management, communication and conflict resolution. The activities for this component include: Yoga, meditation and breathing techniques sessions, team activities, discussions, videos, among others.
2. **Citizenship and Gender.** This component intends to introduce children with a more comprehensive, equitable and fair sense of the world, and to interact in an appropriate manner with other peers. Some activities proposed to achieve this are: videos and youtubers, comics and stories written by children, team activities and games, web platforms, expert talks (as TED Talks for kids), self-defence techniques, among others.
3. **Environment.** For this component, it is intended to reconnect children with nature, in order to make them understand the impacts of their activities and the importance of protecting and preserving the environment, as well as the things they can do to safeguard the environment. The main activities for this component are: Trips, outdoor activities, expositions, games, team activities, experiments and observation, group projects, virtual reality sessions, etc.
4. **Sustainable and resilient practices.** It is expected that children shift their daily activities to a more sustainable lifestyle, being agents of change. The activities to achieve this are: renewable energy kits, virtual reality sessions, mobile apps, games, group activities and group projects, trips and excursions, build up an orchard, and more.
5. **Innovation and technology.** Provide children with tools and technological knowledge and skills, so they can face the challenges of the future in regards to technological development.

All the activities described, reinforce the initiatives from the Municipal Government of Tarija, such as the Environmental Education Centre, therefore the CoF has the support of the Municipality.

CLIMATE CHANGE

RESILIENCE

CAPACITY
DEVELOPMENT
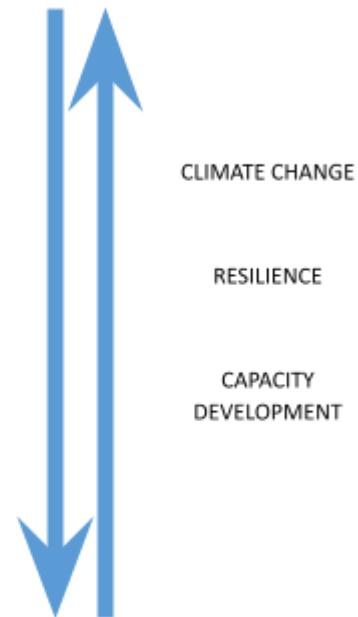
Source. Personal collection.

For the pilot phase, the Project is expected to be implemented in one school of the city of Tarija, which is located in the Cercado province of the Department of Tarija. SASA and the Municipal Government of Tarija have agreed that the best age for the execution of the project is with children from fifth grade (10-11 years old). Moreover, through stakeholder participation, some schools have been identified as potential candidates to implement the pilot phase. One is the "Bolivia" school, where the headmistress showed interest and predisposition to work, mentioning the importance of developing this poorly explored but needed values.

The following activities are contemplated for this pilot phase:

- Meetings with key actors (understand the context of education in the country, expert opinions to know the best way to approach the Project, evaluate the content and land it)
- Generation of the material to be used in the project (content, tools, presentations, dynamics, games, visits, etc.)
- Training for facilitators or educators who will support the initiative
- Implementation
- Feedback meetings and exchange of experiences with other cities that are promoting this type of initiatives

Additional information about the Project can be found in Table 2.

TABLE 2. CoF ADDITIONAL INFORMATION.

Information	Assessment information
Title of the policy or Project	Citizens of the Future, referred as "CoF" throughout this guidance
Type of policy or Project	As the scope of the project involves a set on interconnected development sectors it can be considered as a type of: ● Information instruments, as it involves the development of education campaigns and training sessions aimed at changing behaviour by increasing awareness. ● Implementation of new technologies, processes, or practices, as the activities to be implemented are new to the context and stakeholders, the project introduces new practices to promote the change of behaviour in children
Status of the policy or Project	The project has not yet been implemented
Date of implementation	Upcoming 12 months
Date of completion (if relevant)	Applied over time if institutionalized
Implementing entity or entities	The company in charge of the CoF implementation is SASA, a private consulting firm that will lead the development of activities, materials and contents. Additionally, the SASA team will be supported by the Municipal Government of Tarija, staff from schools and other facilitators. Other stakeholders such as ministries to state agencies, financial institutions, donors and NGOs might be involved at earlier stages of the project, as sources of information, funds and resources.
Objectives and intended impacts or	This Project is aimed at incorporating fundamental issues related to personal development, climate change and building resilience in a transversal way in the education sector. The Project intents to generate significant changes in the values, lifestyles and behaviour of

benefits of the policy or Project	future generations at short, medium and long terms. Therefore, the project has an important potential for the transformation of structural problems in society, promoting the active participation of society to face the challenges of climate change and others. Under this scope, the Project will develop capacities in children to build resilience towards the challenge's climate change may bring, so they will be able to respond, adapt and act against it. The project incorporates perspectives on governance, gender and human rights in non-formal education as key aspects to strengthen resilience and promote low-carbon development. Personal development tools that promote new attitudes, values and behaviours consistent with the objectives of sustainability are also proposed. The expected results are: - Changes in behaviour and lifestyles among children through the influence of the component's content, the activities, the spaces and grading methods, the technologies developed (apps, programs, robots, VR, etc.) and personal development skills. - Children have a high sense of self-worth, capable of managing effectively their emotions, make coherent decisions and solve problems in a peaceful way. - Children communicate and express their ideas to other peers. They understand they have a role in society and how this society should be. - Children develop a deep connection with nature, and comprehend the relationship between their activities and the impacts happening in the environment. - Access to information and the strengthening of awareness about issues associated with climate change is provided. - The initiative contributes to the formulation of bottom-up education public policies focused on resilience, low carbon and sustainable development in the short, medium and long term. - The development of technologies is promoted to respond to the social, economic and environmental problems of the context. The project has set the following goal for the first year of implementation: - Thirty-five (35) children out of one school, trained with the skills and capacities previously mentioned.
Level of the policy or Project	City/Community Level with potential to be scaled up at the national and/or regional level
Geographic coverage	City of Tarija
Sectors targeted	The project is aimed at children in the city of Tarija, addressing the sectors of education, environment, human and intra/inter personal development, and technology
Other related policies or Projects	UNESCO Education 2030 Framework for Project (FFA) EarthED – Rethinking Education on a Changing Planet (WWI) Eco-schools' program (Municipal government of Tarija) Environmental Education Centre (Municipal government of Tarija with the support of WWF) Productive community projects (Ministry of Education)
Reference	http://citizens-of-the-future.com/ (under construction) http://www.ciudadanos-del-futuro.com/

Source. Template Assessment, elaborated by Servcios Ambientales S.A., 2019.

Transformational Vision of the CoF Project

The vision of the project is to enable all children to fulfil their potential as empowered individuals, constructive members of their communities prepared to face the challenges climate change will bring in

the future, in which all children are productive and engaged citizens in the development of their country and the world.

Considering that transformational change can happen as a result of pressures created by people, policies or new disruptive technologies at different levels of society (ICAT, 2018) and geographical scales, the study evaluates the envisaged change at national/regional level considering the alignment of the project with national and regional education policies (medium level) and a local scale by introducing the CoF in local schools. Additionally, the study considers the vision for transformational change of the CoF over three time periods to understand the ambition envisaged for the CoF at short, medium and long terms. The information considered to establish the vision at the scale and time aspects is fully described in Table 3.

TABLE 3. VISION OF THE COF PROJECT.

Levels of society and time periods	Assessment information
Macro level: **(global or international level)**	CoF contributes to the vision of sustainable development the Agenda 2030 proposes and the SDGs established to achieve it, with particular emphasis on the SDGs 4, 5, 6, 11, 13 and those linked to them. The project as well answer to the UNESCO Education 2030 Framework for Project (FFA). The policy, however, does not result in a significant change at the global level, but it has a relative impact in the LAC region.
Medium level: **(national, sectoral or states/provincial level)**	The CoF has established a tentative goal of four hundred and fifty (450) trained children (additional to short-term goals) with specific skills to adapt, respond and overcome climate change challenges at a national level. The children will be capable of generating and understanding climate information in a simple and accessible manner through technological applications at the national level, for example carbon and water footprint calculators, video games, renewable energy kits, Virtual Reality applications, among others. Furthermore, children will have developed intra-inter personal skills that promotes them as agent of change involved in transformational and decision-making processes (i.e., leaders at their schools/societies promoting climate change Project)
Micro level: **(cities, communities or towns)**	The project has been implemented in 1 school (35 children) in the first year (piloting phase) in the city of Tarija. It is envisioned that the upcoming years, towards our short-term timeframe, 200 additional children will have participated of the programme, as the education scheme has been included in the Municipal government education agenda. The project could perceive incentives from private sector and international aid agencies that are involved in the topic.
Long-term (≥15 years)	The long-term vision for 2040 is to broaden the CoF scope to an international level, and at different educational levels (elementary, mid, high schools and superior educational centres), thus this knowledge will be available at all educational levels. The essence of the CoF is now a fundamental part complementing the traditional education of schools, while promoting a transformation. Children develop their potential in an integral and holistic way, acquiring all the required skills to tackle their challenges, and effectively responding to them. Past children, now key agents of change, take wise decisions which promote a sustainable development at all of its dimensions, considering positive values and principles.
Medium-term (≥5 years and <15 years)	The mid-term vision by 2030 is to achieve the expansion of the CoF at a national level. Additionally, the children who have participated from the CoF in past years, are now getting involved in decision making processes, proposing bigger and structural changes and noticeable changing in behaviour patterns, which can be identified by the improvement of the conditions of their social, economic and environmental contexts.

| | The short-term vision by 2024 is to achieve the implementation of the CoF in different schools of the city of Tarija, with the support of the Municipal government of Tarija and other local relevant stakeholders. The project is expected to evolve and create awareness among the community, focussed on the direct beneficiaries (children and parents), about the need of acquiring new skills and shift their behaviour patterns to adapt and be resilient towards the challenges posed by climate change, technological advances and others. |
| Short-term (<5 years) | |

Source. Template Assessment, elaborated by Servcios Ambientales S.A., 2019.

Chapter 3: Transformational change assessment

Transformational change characteristics of the Project

The selection of transformational change characteristics was carried out bearing in mind the selected key assessment principles, the objective of the assessment and the Project and also the context in which the Project is expected to be developed. A first evaluation of the characteristics was developed considering the objective and methodologies proposed by the CoF, these were modified and updated after the identification, in detail, of the CoF impacts following the ICAT Sustainable Development Guidance. Additionally, the selected transformational characteristics were shared with stakeholders and experts for them to provide their insights and modify the pre-selected characteristics.

In accordance with the ICAT Transformational Change Guidance, the team identified the transformational characteristics considering two types of impacts: outcomes and processes. The outcome impacts were assessed in terms of adaptation to climate change and selected sustainable development impacts across environmental, social and economic dimensions. The impacts identification process was developed following the steps outlined in the ICAT Sustainable Development Guidance in Chapters 6, 7 and 9 to overview the influence of the CoF from small-scale to large-scale, and how the transformational potential of the outcomes can be sustained over time. The impacts identified are described in detail in Annex 2 of this assessment.

The outcomes characteristics selected showed more influence and transformational potential of the CoF at Micro Level in terms of scale of outcome for either adaptation to climate change and sustainable development. As for the category "outcome sustain over time", the CoF was envisaged to have a higher transformational potential at Medium term and Short-term. These findings can be justified by the assessment scope considered, mostly, the pilot phase of the CoF to identify its transformational change, the description of each characteristic and its relation to the CoF is shown in Table 4.

TABLE 4 OUTCOME CHARACTERISTICS.

Category	Outcome characteristics	Description – specific to a policy or Project
Scale of outcome –Adaptation to climate change	**Macro level** Adaptation to climate change outcome is insignificant in magnitude at international / global level	This level is outside the assessment boundary. No description necessary.
	Medium level Adaptation to climate change outcome is small in magnitude at national or sectoral levels	This level is outside the assessment boundary. Nonetheless it is expected that providing children with personal, environmental, technological and resilience skills will generate a transformational impact that can be scaled-up at this level.
	Micro level Adaptation to climate change outcome is significant in magnitude at	The CoF provides children with personal, environmental, technological and resilience skills, which makes them be more prepared to face climate change and other issues. It is expected that

	subnational, subsector, city or local levels	children show and promote these skills towards their families, schools and communities raising the adaptation sense to more people in the city and making them less vulnerable.
Scale of outcome – Sustainable development	**Macro level** Sustainable development outcome is net positive in magnitude at international/global level	This level is outside the assessment boundary. No description necessary.
	Medium level Sustainable development outcome is net positive in magnitude at national or sectoral levels	This level is outside the assessment boundary. No description necessary. Nonetheless it is expected to involve schools at national level at least one on the three main cities of the country (La Paz, Cochabamba and Santa Cruz).
	Micro level Sustainable development outcome is net positive in magnitude at subnational, subsector, city or local levels	The CoF is implemented at the subnational level (city) supported mainly by the Municipal Government and the District Education Direction, with the active participation of the parents' board and school directive. It is expected the engagement of stakeholders that will provide guidance and knowledge throughout the implementation of the project.
Outcome sustained over time –Adaptation to climate change	Long term: Adaptation to climate change outcome is possibly achieved and sustained ≥15 years from the starting situation	The period is longer than the assessment period. Nonetheless, in case of a successful implementation of the project and acceptance from local and regional levels, it is expected that the outcomes measured at short term will be scaled up and the transformation impact at 20 years (long term) will potentially increase.
	Medium term: Adaptation to climate change outcome is likely achieved and sustained ≥5 years and <15 years from the starting situation	In a mid-term, it is expected that around 350 children in Tarija (additional to short-term) have acquired personal, environmental, technological and resilience skills which promote readiness and adaptation to climate change and other challenges.
	Short-term: Adaptation to climate change outcome is achieved and sustained <5 years from the starting situation	In the short term, it is expected that around 235 children in Tarija have acquired personal, environmental, technological and resilience skills which promote readiness and adaptation to climate change and others.
Outcome sustained over time – sustainable development	Long term: Sustainable development outcome is likely achieved and sustained ≥15 years from the starting situation	The period is longer than the assessment period. Nonetheless, in case of a successful implementation of the project and acceptance from local and regional levels, it is expected that the outcomes measured at short term will be scaled up and the transformation impact at 20 years (long term) will potentially increase.
	Medium term: Sustainable development outcome is achieved and sustained ≥5 years and <15 years from the starting situation	At medium term, it is expected a higher involvement of schools in the city of Tarija (16-17 schools), and the introduction of new cities at national level (at least one on the three main cities of La Paz, Cochabamba and Santa Cruz). Therefore, the outcomes promoting a sustainable development impact can be sustain over a period longer than the assessment timeframe selected.
	Short-term: Sustainable development outcome is achieved and sustained <5 years from the starting situation	The CoF aims to involve successfully 5-6 schools in the initiative, with the objective to install the capacities in the municipal government and the education local system to develop the project as part of their planned activities. Therefore, it is aimed to successfully have the participation of at least 235 children.

Source. Template Assessment, elaborated by Servcios Ambientales S.A., 2019.

On the other hand, the process characteristics were identified considering the CoF components, activities and methodologies, described in Chapter 2 of this document, that will enable to achieve the transformational outcomes. These have been assessed considering their relevance towards the CoF transformational vision and CoF objective. The process characteristics highly relevant to the CoF are Adoption, Beneficiaries, Awareness, Behaviour and Social norms. The process transformational change characteristics identified for the process are described in Table 5.

TABLE 5. TRANSFORMATIONAL CHANGE PROCESS CHARACTERISTICS .

Category	Process characteristics	Description - specific to a policy or Project	Relevance	Justification
Technology	Research and development (R&D)	Research and development of technology are an essential component of the CoF, encouraging children to develop new technologies which solve climate change and other problems that the future may bring.	Not Relevant	It is expected that children will learn basic technological skills in order to use, design and develop different types of mobile applications, VR, web pages, etc., including technologies that promotes low-carbon and sustainable development. These abilities have not been taught in schools. However, children cannot contribute significantly to this characteristic.
	Adoption	The Projects lead to an early adoption and comprehension of the need to introduce valuable skills that would help children to face future challenges posed by climate change and other problems that the future may bring.	Relevant	The skills to be taught are not included in the conventional education systems, thus the engagement of stakeholders is essential for the adoption of transformational change. The skills can be described under three main focus: mental, physical and spiritual. Under the scope of physical and mental skills, the project promotes the use and development of technology as carbon and water footprint calculators, video games, renewable energy kits, Virtual Reality applications, urban farming, among others. On the other hand, considering mental and spiritual skills, the activities to be developed provided with intra and inter personal skills such as breathing techniques meditation, to promote self-awareness and confidence, creativity, meaningful connection with their environment, among others.
	Scale up	It is expected the Project to be incorporated and scaled up to other cities of Bolivia, and also around Latin America.	Possibly relevant	There are few initiatives or Projects with the same vision and methodology in Bolivia. Nonetheless, there are similar Projects taken in Peru and Brazil, which are considered in the project as guides for its implementation. Therefore, we intent to scale up these processes and improve ongoing initiatives.
Agents	Entrepreneurs	No description necessary, since this characteristic is not relevant	Not relevant	It is not the purpose of the CoF to develop entrepreneurs, promote businesses and investors however, it could be an indirect effect of the initiative as we aim to include the private sector in the development of the project.
	Coalitions of advocates	The policy indirectly provides a fertile ground for coalitions and networks of stakeholders to engage towards a common goal of children with a set of skills, capable of tackling the challenges of tomorrow and taking the right decisions for their communities.	Possibly relevant	It is possible to create a network among different cities which have implemented the CoF Project, in order to exchange knowledge and experiences.
	Beneficiaries	Beneficiaries play a role in ensuring the Project is durable and strengthened over time.	Relevant	The direct beneficiaries are the ones who are expected to promote and apply the skills for transformational change and make future decisions leading to a low carbon and sustainable development and lifestyles. It has

				been considered as main beneficiaries the children and parents.
Incentives	Economic and non-economic	No description necessary, since this characteristic is not relevant.	Not relevant	Since the CoF is directed to children and it is an educational Project there is no need to provide economic and non-economic incentives.
	Disincentives	No description necessary, since this characteristic is not relevant.	Not relevant	Since the CoF is directed to children and it is an educational Project there is no need to provide disincentives.
	Institutional and regulatory	The Project may lead to an appropriation of the initiative by the Municipal governments of Tarija, and other cities of Bolivia and the LAC region. Therefore, the CoF may be considered as an essential part of the activities developed by the Municipal governments, consolidating and giving sustainability to the Project.	Possibly relevant	Creation of regulations and most of all the institutionalization of the Project is key to guarantee its sustainability over time.
Norms	Awareness	The CoF Project, through its components and activities, attempts to raise awareness among beneficiaries, stakeholders and citizens in general.	Relevant	There is still a low level of awareness regarding climate change and other problems in the city of Tarija and in the country.
	Behaviour	The CoF affects the behavior of children to change their lifestyles promoting a shift to more sustainable and integral patterns.	Relevant	This is a key factor in order to lead transformational change and raise awareness in children and the population.
	Social norms	The CoF aims to have an influence in societal attitudes in favor of more sustainable lifestyles and patterns.	Relevant	Social norms prevent changes of behaviour, therefore is relevant to influence social norms in favour of sustainable development.

Source. Template Assessment, elaborated by Servcios Ambientales S.A., 2019.Chapter 6: Assessment of the starting situation

Assessment boundaries and period

As mentioned, the geographical boundary of the assessment is the city of Tarija (, Bolivia. Located in the department of Tarija in the Cercado Province. The assessment is aimed at a City/Community Level with potential to be scaled up at the national and/or regional level.

On the other hand, acknowledging the multisectoral nature of the CoF Project, it was important to clearly identify the main sectors directly or indirectly involved. One criterion to select these sectors was the availability and delivery of information and useful data for the design and the elaboration of the CoF Project, but also the capacity of these sectors to support the

1. MENDEZ
2. CERCADO
3. O' CONNOR
4. A. ARCE
5. J.M. AVILEZ
6. GRAN CHACO
● TARIJA
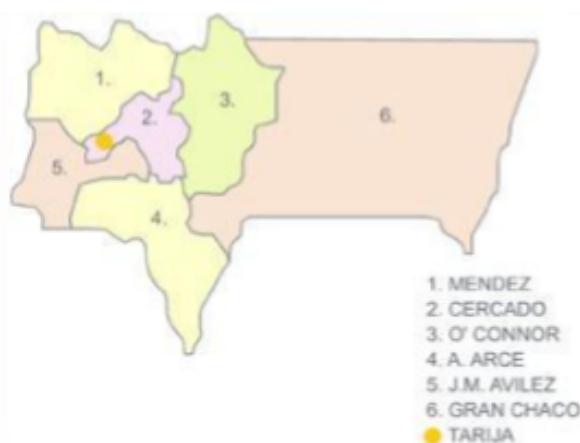
FIGURE SEQ FIGURE * ARABIC 4 LOCATION OF THE CITY OF TARIJA
Source. Red escuela web page.

initiative. The sectors selected for this assessment are: Education, environment, human and intra/inter personal development and technology.

The assessment focusses mainly on the transformational potential to be achieved at a scale of 12 months (1 year) as it is the piloting phase of the project. Considering this timeframe, we expect to improve the original design of the CoF to maximize its transformational potential. Nonetheless, we consider a timeframe of 20 years to oversee the transformation potential of the CoF in light of the involvement and support from a wider range of stakeholders.

Chapter 4: Estimating transformational change impacts

Assessment of the Starting Situation

According to the ICAT Transformational Change Guidance, in order to identify the potential of the transformational change characteristics, it is necessary to developed an assessment of the current state and status of these. This process allows as well to identify possible barriers that may detriment the implementation of the CoF, therefore, the achievement of the transformational vision of the initiative.

Based on the phases outlined in the guidance, it was possible to identify the starting situation of the CoF under the Pre-development Phase considering the following:

- The initiative is yet to be implemented.
- Currently, there are few efforts at local level that provide children with new and essential skills to tackle climate change and future related challenges. Therefore, this action is an innovative and ground-breaking approach towards traditional education and personal development.
- The national education system is based on four dimensions: Being, Knowing, Doing and Deciding, nonetheless the curriculum fails to address the first dimension through precise activities that promotes personal development.
- Local stakeholders, including beneficiaries, parents, educators, municipal government and funders; have expressed a demand for transformative educational approaches that will provide children with new personal skills.
- Traditional education practices and perceptions persists among stakeholders which limits the introduction of new practices and methodologies.

The starting situation can be described based on the relevant transformational characteristics, previously identified, by assigning indicators that will allows us best to describe the starting situation of the selected process and outcome characteristics.

The indicators identified for the outcomes considered mainly the scale of the outcome in terms of societal levels Global or international level (macro level), National or sectoral level (medium level) and Subnational level (micro level) for the adaptation to climate change and sustainable development. The indicators consider mainly the micro and medium level due to their relevance to the assessment scope. As for the outcome sustainability, the indicators were formulated considering three timeframes: Long-term: (≥15 years from the starting situation), Medium term: (≥5 years and <15 years from the starting situation) and Short term: (0<5 years from the starting situation). In accordance to the assessment scope, the medium and short term are in line with the transformational vision established.

The complete set of indicators is described in Table 6.

TABLE 6 DESCRIPTION OF THE STARTING SITUATION FOR SELECTED OUTCOME CHARACTERISTICS - CoF

Outcome category	Outcome characteristic	Description of the starting situation	Indicators
Scale of outcome –Adaptation to climate change	Global or international level (macro level)	Outside the assessment boundary	Not applicable
	National or sectoral level (medium level)	Outside the assessment boundary The current national education system includes four main pillars for development: Doing, Being, Knowing and Deciding. These share the objectives of the project.	- Share of schools at national level that implement the initiative - % of children participating of the project at national or regional level - Number of cities that replicate and adopt the initiative
	Subnational level (micro level)	Eco school's program developed by the Municipal government in 11 schools of Tarija Construction of the Environmental Education Centre in support with the WWF and GIZ	- % of children who feel more prepared to tackle climate change issues - Number of collaborative spaces created for the development of the project's activities - % of schools at local level that officially recognize the project as part of their educational program - Number of teachers trained and applying the project's teaching methodology
Scale of outcome – Sustainable development	Global or international level (macro level)	Outside the assessment boundary	Not applicable
	National or sectoral level (medium level)	Outside the assessment boundary The current national education system through the main articulating axes of the curriculum addresses education topics of interculturality, interculturality and plurilingual, socio-community values, coexistence with Mother Earth and community health and production.	- Number of cities that replicate and adopt the initiative
	Subnational level (micro level)	Eco school's program developed by the Municipal government in 11 schools of Tarija Construction of the Environmental Education Centre	- Initiative supported and institutionalized by the Municipal government - Number of schools that accept the CoF and implement it - Number of parents that accept the CoF - Number of children who participate in the CoF
Outcome sustained over time - Adaptation to climate change	Long-term: (≥15 years from the starting situation)	Outside the assessment boundary	The period is longer than the assessment period. No description necessary.
	Medium term: (≥5 years and <15 years from the starting situation)	Adaptation outcomes could have been sustained over time, considering that the CoF has scaled up and broaden its reach. Nonetheless, the timeframe is not enough to assume that the impacts of CoF at short term provides with a successful implementation basis and this are sustained. The CoF is a new initiative and has been under implementation for just over a year.	- % of children participating actively of the project - % of schools at local level that officially recognize the project as part of their educational program - Number of municipal governments that institutionalize the initiative - Number of graduated students that have completed the course - Number of cities that replicate and adopt the initiative - Number of schools that replicate the initiative

	Short term: (0<5 years from the starting situation)	Currently the Eco school's program has been implemented for 2 years. Currently the Environmental Education Centre has not been implemented There may be other separated private efforts, but there is no evidence of notable changes	- % of children who feel more prepared to tackle climate change issues - Number of collaborative spaces created for the development of the project's activities - Increase in awareness regardless climate change issues and other's - Number of parents that accept the CoF action - Number of children that actively participate in decision making process - Number of people involved and who have participated in the action
Outcome sustained over time - Sustainable development	Long-term: (≥15 years from the starting situation)	Currently the Eco school's program has been implemented for 2 years. Currently the Environmental Education Centre has not been implemented	This period is outside the assessment boundary. No description necessary.
	Medium term: (≥5 years and <15 years from the starting situation)	Currently the Eco school's program has been implemented for 2 years. Currently the Environmental Education Centre has not been implemented	- Number of sustainable projects proposed by past children - Creation of a network with all the cities implementing the CoF - Number of children involved and who have participated in the action - Number of adaptation projects proposed by past children
	Short term: (0<5 years from the starting situation)	Currently the Eco school's program has been implemented for 2 years. Currently the Environmental Education Centre has not been implemented There may be other separated private efforts, but there is no evidence of notable changes	- Number of children who participate in the CoF action - Number of schools implementing the CoF action - Action institutionalized in the Municipal Government - Action with financial support from different stakeholders - % of children who feel more prepared to tackle climate change issues

In the case of the set of indicators that describe the starting situation for selected process characteristics, first, the study considered the initial set of process transformational characteristic -developed in Chapter 2-, and informed the initial assumptions with contextual information and expert/stakeholder inputs to elaborate a more accurate overview of the starting situation. This facilitates the elaboration of indicators that best suit and provide with a comprehensive assessment basis needed to developed the ex-ante evaluation. These indicators are fully described in

TABLE 7 DESCRIPTION OF THE STARTING SITUATION FOR SELECTED PROCESS CHARACTERISTICS - CoF

Process category	Process characteristic	Description of the starting situation	Indicators
Technology	Research and development	Not Relevant. Few transformative education initiatives promoting the use of technology for sustainable development among children in Tarija and the country. The national framework promotes technology introduction and use, nonetheless the outcomes	Not applicable

		show little to none effective technological skills developed in children.	
	Adoption	Relevant. Current national education approaches including topics of climate change, personal development and technology induction, demonstrates low influence and effectiveness. At a local level, the current education model and curricula introduces, through the Socio-productive Project, the topics of environment and sustainable management in the school's activities, but at a limited reach. Furthermore, there is insufficient engagement from stakeholders towards new teaching methods to introduce the required skills for citizens of the future.	- Number of schools implementing the project - Number of children participating in the project - Number of collaborative spaces created for the development of the project's activities - Number of teachers trained and applying the project's teaching methodology - Number of activities where the new proposed grading system is applied - Number of schools at local level that officially recognize the project as part of their educational program - Number of children and parents supporting the initiative
	Scale-up	Possibly relevant. Some actions are being implemented at the local level, however there is a lack of articulation among them and with other national initiatives.	- Number of schools that replicate and adopt the initiative - Number of cities that replicate and adopt the initiative - % of children actively and consciously engaging in social media - Number of research initiatives shared through social media - Number of innovative technological projects implemented by children according to their context
Agents	Entrepreneurs	Not applicable	Not applicable
	Coalitions of advocates	Possibly relevant. Absence of a national or international network to share experiences and apply the initiative. There are currently support from NGOs that promotes projects and activities related to climate change, environment and sustainable development	- Creation of a network with all the schools implementing the CoF - Creation of a network with all the cities implementing the CoF
	Beneficiaries	Relevant. In the city of Tarija, the program of Eco Schools is being implemented by the Municipal Government with students of 5th grade from eleven schools, focusing on water, energy and waste.	- Number of children who practice meditation and self-knowledge activities (capability to reflect about themselves) - Number of children practicing yoga and other self-control techniques - Number of activities done to increase empathy - Number of activities where children interact in a more equal and collaborative way - % of boys/girls' participation in activities - Number of girls' empowerment activities - Number of building teamwork competence activities - Number of sexual orientation activities (including gender diversity as LGBT) - Number of self-defence classes - Number of intercultural activities

			- Number of activities that establish connection between environment and children (e.g. outdoor activities, urban agriculture, field trips) - Number of environmental actions or projects proposed by children - Number of climate change initiatives proposed by children for their schools and society - Number of activities related to sustainable eating practices (nutrition) - Number of activities involving elderly and traditional knowledge experts - % of children who promote water and energy efficient consumption - Number of initiatives to reduce water and energy monthly consumption in school - Number of activities implementing the 5 R's and waste treatment practices - % of children actively and consciously engaging in social media - Number of innovative technological projects implemented by children according to their context - Number of induction activities with technology (functions, parts, purpose)
Incentives	Economic and non-incentives	Not applicable	Not applicable
	Disincentives	Not applicable	Not applicable
	Institutional and regulatory	Possibly relevant. The Municipal Government of Tarija is validating the Eco School's methodology in order to institutionalize the idea. Additionally, the Municipal government is planning the construction of the Environmental Education Centre, which is focused in water, energy, waste, territory management and citizenship.	- Number of municipal governments that institutionalize the initiative - Number of schools that formally introduce the project activities in their curricula
Norms	Awareness	Relevant. There is awareness among people in the city of Tarija in regards to climate change and environmental education, however, it is necessary to promote a higher involvement and participation of the citizenship towards tackling climate change issues and others related to personal development.	- Number of children who can recognize and understand their physical bodies, functions and health - Number of children who acknowledge the importance of education - % of children who recognize, control and express their emotions - Number of children who recognize gender equity and equality - % of children who understand their rights and SDGs evaluated through activities - % of children who are aware of their sexual boundaries (rights) and their responsibilities - % of children sensitive towards environmental issues and situations - Number of children aware and concerned about environmental problems and consequences - Number of awareness activities regarding unsustainable consumption trends - % of children aware of the risks and benefits of social media - Number of activities involving the use of mobile applications, web pages, VR and robotics - % of children aware of the risks and benefits of social media
	Behaviour	Relevant.	- % of children capable of expressing their ideas in a coherent and critical way - % of improvement in the organization and discipline of children in the classroom

		Society and children still practice unsustainable consumption rates and production trends	- Number of net positive reactions from children to real situational activities - % of children who improve decision making evaluated in the development of different activities - Number of children who respond to situations according to values of communitarian living - Number of activities where children interact in a more equal and collaborative way - % of children sensitive towards environmental issues and situations - Number of children aware and concerned about environmental problems and consequences - % of children who show responsibility towards their environmental impacts - % of children who know how to identify their environmental impact - % of children that choose sustainable and healthy consumption attitudes - % of children who opt for sustainable transport modes - % of children who adopt sustainable eating behaviours - % of children who adopt and apply local and indigenous practices - % of children who promote water and energy efficient consumption - % of children actively and consciously engaging in social media - Number of innovative technological projects implemented by children according to their context
	Social norms	Relevant. The action can boost changes in social norms and culture, nevertheless currently there are not noticeable changes perceived.	- Number of activities where children interact in a more equal and collaborative way - % of boys/girls' participation in activities - Number of violent events registered among children during the implementation of CoF - % of children who show responsibility towards their environmental impacts - Number of environmental actions or projects proposed by children - % of children who opt for sustainable transport modes - % of children that choose sustainable and healthy consumption attitudes - % of children who adopt sustainable eating behaviours - Number of differentiated waste containers in schools - % of reduction in water and energy school's bills - % of waste generation reduction

Barriers

Determining the starting situation for transformational characteristics is both useful as a reference point to understand the context in which the CoF is being planned (reference point) and identify barriers for transformational change specific to the phase of transformation.

The barriers to transformational change for the CoF were identified considering their potential effects to hinder the desire results or lead to undesired outcomes. These were identified based on expert and stakeholder criteria and feedback, as well as, understanding of the context (local and national). The barriers identified comprises different categories mostly affecting the transformational characteristics of Adoption, Beneficiaries and Awareness as shown in Table 6

TABLE 8 BARRIERS TO TRANSFORMATIONAL CHANGE SPECIFIC TO THE PHASE OF TRANSFORMATION

Type	Barriers	Explanation	Characteristics affected
Institutional	Lack of institutional support of the CoF	Insufficient support from municipal government authorities hinder the adoption and proper implementation of the initiative	● Institutional and regulatory ● Awareness ● Adoption ● Social norms
Institutional /Social	Inadequate communication between stakeholders and institutions	Deficient means of communication may cause confusion and misunderstandings related to the purpose and methodologies of the initiative, which will postpone the implementation and hinder the development of the CoF	● Institutional and regulatory ● Adoption ● Scale up ● Beneficiaries
Social	Reluctance to accept the introduction of new teaching methods	Teachers and education boards may disagree and dispute the implementation of new teaching and grading methodologies, discouraging the development of the CoF action.	● Adoption ● Social norms ● Beneficiaries
Social	Reluctance from beneficiaries to the implementation of the CoF	Parents can hinder and delay the development of the initiative due to misunderstandings in regards to the purpose, importance and benefits of the CoF for their children, as it proposes non-traditional educational approaches.	● Adoption ● Awareness ● Beneficiaries
Social	Limited participation and involvement of children in CoF activities	Scare and/or insufficient participation and involvement of children in the activities may obstruct the implementation, development and scale up the project.	● Adoption, ● Awareness ● Beneficiaries ● Social norms ● Scale up ● Behaviour
Technology	Unavailability of appropriate technological material to support the CoF	Unavailable appropriate technological supplies and equipment such as sensors, computers, VR lenses, apps and other equipment, which may lead to an inadequate learning experience of the CoF activities, affecting the learning process and development of children.	● Beneficiaries ● Behaviour ● Adoption
Capacity	Lack of adequate infrastructure	Without adequate infrastructure such as open and recreational spaces, gardens, interactive classrooms, among others; most of the proposed CoF activities cannot be developed properly.	● Beneficiaries ● Behaviour ● Scale up
Capacity	Lack of trained personnel for the support of the action	For an appropriate development of the project, it is fundamental that the CoF staff compiles experts and experienced professionals to facilitate and conduct the knowledge to children applying new non-traditional teaching methods. The absence of this personnel can distort the purpose of the CoF and limited the reach of transformational change.	● Beneficiaries ● Behaviour ● Adoption
Financial	Lack of economic resources for the implementation of the CoF	Limited availability of financial resources and instruments can hinder the implementation and development of the CoF. The lack of economic resources will affect directly the potential of scale up and sustainability of the CoF.	● Adoption ● Beneficiaries ● Scale up
Political	Limited political alignment and commitment with the	A change in political views may hinder the support provided for the development and implementation of the CoF. This	● Coalitions of advocates ● Institutional and

	education approach and basis the CoF proposes	barrier can be linked to government authority's rotation and/or substitution.	regulatory ● Awareness

Estimating Transformational Impacts Ex-Ante

Considering all the information generated in previous steps (Chapters), the study was able to estimate Transformational Impacts under the ex-ante prospective following the steps outlined in Chapter 8 of the ICAT Transformational Change Guidance. These steps included assessing the barriers to transformational change, assess characteristics and finally aggregate these results to obtain a more general overview of the transformational potential of the CoF.

The impacts were estimated considering the qualitative methodology outlined In the ICAT Guidance of assigning scores according to scoring scales and rates based on stakeholders and experts' input and feedback. The qualitative rationale varies for the barrier and characteristics assessment. The result of this process provided with information expressed in terms of the extent of transformation expected and the likelihood that the expected transformation can be realized over the assessment period, including the underlying rationale and context circumstances.

Assess barriers to transformational change

Identifying and assessing barriers for transformational change is important to understand the full potential for transformational change and to enable the design of policies and actions to overcome these barriers (ICAT, 2018)*.* Bearing this in mind, the barriers identified in Table 8 were qualitatively scored (following the scoring scale Table 8.1 of the guidance), in order to understand the degree to which, they reduce the potential of the CoF to positively impact the education system and approaches in the city of Tarija.

Considering the study scope (ex-ante assessment), the assessment of the barriers helped to include preventive measures in the design of the CoF and prioritize those with high impact potential to completely counteract the envisaged effect of the characteristic. For example, the CoF now includes induction workshops for parents and teachers to motivate their participation and engagement during the implementation of the CoF; this, as well, helps to prevent misunderstandings and/or misconceptions about the project's objectives and methodologies. A similar preventive measure will be taken for the municipal government and schools' authorities to address the identified institutional barriers. These exemplify the significance of this process in the improvement of the CoF design to enable the transformational change expected from the initiative.

The highest score was given to Financial Barrier (Lack of economic resources for the implementation of the CoF), Social Barrier (Scare and/or insufficient participation and involvement of children in the activities may obstruct the implementation, development and scale up the project), and Institutional Barrier (Insufficient support from municipal government authorities hinder the adoption and proper implementation of the initiative).

Assess characteristics

Considering the outcome and process characteristics identified in previous steps (Chapter 3), it is necessary to understand the extent of transformation expected through a qualitatively evaluation of each characteristic and to fully comprehend the underlying potential impact of the CoF activities and methodologies towards achieving the envisaged transformational potential. Therefore, the study developed a qualitative analysis based on the comparison of the starting situation (elaborated previously) and its expected development over the assessment period.

This procedure was developed by estimating future quantitative and qualitative values for the indicators selected for the process and outcomes, and compare these with corresponding values for the starting situation (as described previously) to assess the extent of transformation expected. The result of this process is shown in Table 9.for the outcome characteristics and in Table 10 for the process characteristic. The scores were assigned considering the parameters established in Table 8.3 of the Guidance.

As a result of this evaluation, the process transformational characteristics most relevant to achieve the CoF transformation impact are Adoption, Awareness, Beneficiaries, Norms and Behaviour. On the other, the results of the outcome characteristics, the micro and short-term levels show the highest score.

TABLE 9 Ex-Ante Assessment of Outcome Characteristics - CoF

Category	Characteristic	Score	Rationale justifying the score	Indicators	Indicator value at starting situation (2019)	Indicator value for expected transformation (2040)
Scale of outcome –Adaptation to climate change	Global or international level (macro level)	NA	Outside the assessment boundary	Not applicable	NA	NA
	National or sectoral level (medium level)	2	Outside the assessment boundary The current national education system includes four main pillars for development: Doing, Being, Knowing and Deciding. These share the objectives of the project.	Number of schools at national level that implement the initiative	0	33
				% of children participating of the project at national or regional level	0%	50%
				Number of cities that replicate and adopt the initiative	0	4
	Subnational level (micro level)	3	Eco school's program developed by the Municipal government in 11 schools of Tarija Construction of the Environmental Education Centre in support with the WWF and GIZ	% of children who feel more prepared to tackle climate change issues	0%	75% of graduated children
				Number of collaborative spaces created for the development of the project's activities	0	30
				% of schools at local level that officially recognize the project as part of their educational program	0	75%

				Number of teachers trained and applying the project's teaching methodology	0	60
Scale of outcome-sustainable development	Macro level	NA	Outside the assessment boundary	NA	NA	NA
	Medium level	2	Outside the assessment boundary	Number of cities that replicate and adopt the initiative	0	4
	Micro level	3	The CoF is expected to boost changes in children and "tarijeños" in general, specially through the support of children (direct beneficiaries), parents and the current Municipal Government	Initiative supported and institutionalized by the Municipal government	No	Yes
				Number of schools that accept the CoF and implement it	0	30
				Number of parents that accept the CoF	0	2050
				Number of children who participate in the CoF	0	1050
Outcome sustained over time - Adaptation to climate change	Long-term: (≥15 years from the starting situation)	NA	Outside the assessment boundary	The period is longer than the assessment period. No description necessary.	NA	NA
	Medium term: (≥5 years and <15 years from the starting situation)	2	Adaptation outcomes could have been sustained over time, considering that the CoF has scaled up and broaden its reach. Nonetheless, the timeframe is not enough to assume that the impacts of CoF at short term provides with a successful implementation basis and this are sustained. The CoF is a new initiative and has been under implementation for just over a year.	% of children participating actively of the project	0	75%
				% of schools at local level that officially recognize the project as part of their educational program	0	75%
				Number of municipal governments that institutionalize the initiative	0	4
				Number of graduated students that have completed the course	0	685
				Number of cities that replicate and adopt the initiative	0	4
				Number of schools that replicate the initiative	0	33
	Short term: (0<5 years from the starting situation)	3	Currently the Eco school's program has been implemented for 2 years. Currently the Environmental Education Centre has not been implemented There may be other separated private efforts, but there is no evidence of notable changes	% of children who feel more prepared to tackle climate change issues	0	75% of total graduates
				Number of collaborative spaces created for the development of the project's activities	0	30
				Increase in awareness regardless climate change issues and other's	No	Yes
				Number of parents that accept the CoF action	0	600
				% of children that actively participate in decision making process	0	30%
				Number of people involved and who have participated in the action	0	Just as a monitoring process and not as a target

Outcome sustained over time-sustainable development	Long-term	2	Due to the importance of the skills transmitted by the CoF action it is expected that the initiative will be replicated at different educational levels and highly supported. Nevertheless, there is no guarantee that will be implemented as expected.	This level is outside the assessment boundary. No description necessary.		NA	NA
	Medium-term	2	In Tarija is expected that the initiative is replicated and supported by children, parents, schools, Municipal government and other stakeholders. However, it is implementation in other cities could be moderate	Number of sustainable projects proposed by past children	0	200
					Creation of a network with all the cities implementing the CoF	No	Yes
					Number of children involved and who have participated in the action	0	685
					Number of adaptation projects proposed by past children	0	10
	Short-term	3	The action is highly supported by the eleven schools where the initiative is supposed to take place. Parents understand the relevance and need to provide their children with these skills and other stakeholders are interested in supporting the idea.	Number of children who participate in the CoF	0	235
					Number of schools implementing the CoF	0	6
					Action institutionalized in the Municipal Government	No	Yes
					Action with financial support from different stakeholders	No	Yes

TABLE 10 PROCESS CHARACTERISTICS FOR EX-ANTE ASSESSMENT - CoF

Category	Characteristic	Score	Rationale justifying the score	Indicators	Indicator value at starting situation (2019)	Indicator value for expected transformation (2040)
Technology	Research and development	NA	Not relevant	NA	NA	NA
	Adoption	4	Globally there is pressure to transform the current education systems. Many successful experiences have spread in different countries promoting a revolution towards traditional education approaches. Under this framework, the national approach towards education promotes a holistic approach for an integral formation through the development of the dimensions of Being,	Number of schools implementing the project (inside Tarija)	0	30
				Number of children participating in the project	0	1.050
				Number of collaborative spaces created for the development of the project's activities	0	30
				Number of teachers trained and applying the project's teaching methodology	0	60
				Number of activities where the new proposed grading system is applied	0	200 per year per school

			Knowing, Doing and Deciding in the process of social transformation. Additionally, in Tarija there is a wide support to initiatives that promote new learning approaches (non-traditional). The CoF is supported by parents, children and stakeholders in general	Number of schools at local level that officially recognize the project as part of their educational program	0	30
				Number of children and parents supporting the initiative	0	600 in the short term and increasing until 2040
				Number of activities where the new proposed grading system is applied	0	200 per year per school
				Number of teachers trained and applying this method	0	60
	Scale up	3	The lack of institutionalization, lack of political will and national policies towards transformative educational schemes may hinder the process to scale up the action. A high involvement from stakeholders may provide with a viable foundation to expand the reach of the project. It is realistically expected that the results of the CoF pilot phase will lead to a significant change and will generate a demand from other schools.	Number of schools that replicate and adopt the initiative	0	30
				Number of cities that replicate and adopt the initiative	0	4
				% of children actively and consciously engaging in social media	0[3]	40%
				Number of research initiatives promoted by children	No public data available	250 in the short term and increasing until 2040
				Number of innovative technological projects implemented by children according to their context	0[4]	25 in the short term and increasing until 2040
Agents	Entrepreneurs	NA	Not relevant	NA	NA	NA
	Coalition of advocates	2	CoF is being developed as a separate effort from national stakeholders, as it is a local effort. However, current national efforts are not articulated or linked with local approaches The CoF intends to be one action that creates these connections, nevertheless there is no guarantee that is going to happen.	Creation of a network with all the schools implementing the CoF	No	Yes
				Creation of a network with all the cities implementing the CoF	No	Yes
				Number of children and parents supporting the initiative	0	200 in the short term and increasing until 2040
	Beneficiaries	4	Children or people engaged and participating in this type of actions around the world, are able to change their lifestyles and promote sustainability. Also, they give support to the action to continue over time.	Number of children who practice meditation and self-knowledge activities (capability to reflect about themselves)	0	525
				Number of children practicing yoga and other self-control techniques	0	525
				Number of activities done to increase empathy	0	10 per year on each school

[3] There are some studies about the perception of technology among children in some schools of Tarija such as the study of "Social Media Perception in school: Felipe Palazón" by Carmelo Branimir España, however there is not enough public information on the topic

[4] No public data available, however trough meeting with stakeholders we know that some schools promote already the use of technology among children

			They become real agents of change. This is expected to happen with the children who participate in the CoF Considering that skills the new agents of change may need in the future, involving intra and inter personal, technology and spiritual skills. Under the scope of physical and mental skills, the project promotes the use and development of technology as carbon and water footprint calculators, video games, renewable energy kits, Virtual Reality applications, urban farming, among others. On the other hand, considering mental and spiritual skills, the activities to be developed provided with intra and inter personal skills such as breathing techniques meditation, to promote self-awareness and confidence, creativity, meaningful connection with their environment, among others.	Number of activities where children interact in a more equal and collaborative way	0^5	8 out of 12 per year on each school
				% of boys/girls' participation in activities	0^3	50/50
				Number of girls' empowerment activities	No data available	7 per year on each school
				Number of building teamwork competence activities	No data available	5 per year on each school
				Number of sexual orientation activities (including gender diversity as LGBT)	0^3	3 per year on each school
				Number of self-defense classes	0	8 per year on each school
				Number of intercultural activities	0^3	5 per year on each school
				Number of activities that establish connection between environment and children (e.g. outdoor activities, urban agriculture, field trips)	0^6	15 per year on each school
				Number of environmental actions or projects proposed by children	0^4	50 in the short term and increasing until 2040
				Number of climate change initiatives proposed by children for their schools and society	No data available	25 in the short term and increasing until 2040
				Number of activities related to sustainable eating practices (nutrition)	0^3	8 per year on each school
				Number of activities involving elderly and traditional knowledge experts	This topic is in some way included in the basic curricula, but there is no information about activities in schools	4 per year on each school
				% of children who promote water and energy efficient consumption	0^4	30%
				Number of initiatives to reduce water and energy monthly consumption in school	0^7	25 in the short term and increasing until 2040
				Number of activities implementing the 5 R's and waste treatment practices	0^4	6 per year on each school

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[5] No data available, but intercultural, sexual orientation, gender equality, nutrition and food security issues are included as part of the curricula in schools

[6] Limited access to this information, nevertheless there are many schools which work with environmental activities through their Socio-productive projects (e.i. School cleaning)

[7] We could not have access to this information, nevertheless there are many schools which work with environmental activities through what is known as Socio-productive projects (e.i. School cleaning). Additionally, through the Eco-school's program implemented by the Municipal Government, some schools have improved their energy and water consumption patterns.

				Number of innovative technological projects implemented by children according to their context	No public data available, however trough meeting with stakeholders we know that some schools promote already the use of technology among children	25 in the short term and increasing until 2040
				% of children actively and consciously engaging in social media	0	40%
				Number of induction activities with technology (functions, parts, purpose)	0	6 per year on each school
Incentives	Economic and non-economic incentives	NA	Not relevant	NA	NA	NA
	Disincentives	NA	Not relevant	NA	NA	NA
	Institutional and regulatory	2	Political changes, different interests and disagreements between political parties are typical problems specially in Latin American countries. This situation can hinder the institutionalization of the CoF action in Tarija and in other cities too.	Number of municipal governments that institutionalize the initiative	0	4
				Number of schools that formally introduce the project activities in their curricula	0	30
Norms	Awareness	4	As happens with beneficiaries, people who participate in these actions develop awareness concerning climate change issues, gender issues, among others', creating sensitive individuals who transmit their knowledge to their communities and become activists. This is expected to happen with the implementation of the CoF.	Number of children who can recognize and understand their physical bodies, functions and health	0	525
				Number of children who acknowledge the importance of education	No data available	525
				% of children who recognize, control and express their emotions	No data available	30%
				Number of children who recognize gender equity and equality	0[3]	250 in the short term and increasing until 2040
				% of children who understand their rights and SDGs evaluated through activities	No data available	30%
				% of children who are aware of their sexual boundaries (rights) and their responsibilities	0[3]	20%
				% of children sensitive towards environmental issues and situations	0[4]	50%
				Number of children aware and concerned about environmental problems and consequences	No data available	525
				Number of awareness activities regarding unsustainable consumption trends	0	12 each year per school

					Baseline	Target
				% of children aware of the risks and benefits of social media	No public data available	70%
				Number of activities involving the use of mobile applications, web pages, VR and robotics	0	22 per year on each school
	Behavior	4	As awareness raises, the behavior of children is supposed to change too. People know what is sustainable and what is not and start changing their behavior and their lifestyles.	% of children capable of expressing their ideas in a coherent and critical way	No public data available	30%
				% of improvement in the organization and discipline of children in the classroom	0%	20%
				Number of net positive reactions from children to real situational activities	0	20 out of 25 activities per year
				% of children who improve decision making evaluated in the development of different activities	0%	30%
				Number of children who respond to situations according to values of communitarian living	0	525
				Number of activities where children interact in a more equal and collaborative way	0^3	8 out of 12 per year on each school
				% of children sensitive towards environmental issues and situations	0^4	50%
				Number of children aware and concerned about environmental problems and consequences	No data available However environmental issues are included in the basic curricula	525
				% of children who show responsibility towards their environmental impacts	0^4	50%
				% of children who know how to identify their environmental impact	No public data available	30%
				% of children that choose sustainable and healthy consumption attitudes	No public data available	20%
				% of children who opt for sustainable transport modes	No public data available	15%
				% of children who adopt sustainable eating behaviors	No public data available	15%
				% of children who adopt and apply local and indigenous practices	0^3	10%
				% of children who promote water and energy efficient consumption	0^4	30%
				% of children actively and consciously engaging in social media	0^8	40%
				Number of innovative technological projects implemented by children according to their context	No public data available, however trough meeting with	25 in the short term and increasing until 2040

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[8] There are some studies about the perception of technology among children in some schools of Tarija such as the study of "Social Media Perception in school: Felipe Palazón" by Carmelo Branimir España, however there is not enough public information on the topic

					stakeholders we know that some schools promote already the use of technology among children	
	Social norms	4	Awareness and behavior are deeply connected with social norms. It is expected that through the skills gained from the CoF action, children become agents of change and promote cultural changes in their schools, families and society in general.	Number of activities where children interact in a more equal and collaborative way	0^3	8 out of 12 per year on each school
				% of boys/girls' participation in activities	0^3	50/50
				% reduction of violent events registered among children during the implementation of CoF	0%	20%
				% of children who show responsibility towards their environmental impacts	0^4	50%
				Number of environmental actions or projects proposed by children	0^4	50 in the short term and increasing until 2040
				% of children who opt for sustainable transport modes	No public data available	15%
				% of children that choose sustainable and healthy consumption attitudes	No public data available	20%
				% of children who adopt sustainable eating behaviors	No public data available	15%
				Number of differentiated waste containers in schools	Schools did not have that information available according to meetings with stakeholders	9 on each school
				% of reduction in water and energy school's bills	Depending on each school	10%
				% of waste generation reduction	Depending on each school	20%

Aggregated results

Aggregated results at category level

Considering the results from assessing the barriers and process and outcomes characteristics, the aggregated results at category level shows the degree to which categories of transformational processes and outcomes are important to achieving the vision for transformational change in the particular context of the city of Tarija. The results show a higher influence of the Norms category as the CoF boost habits change in children, being children the principal sponsors of change, as described in Table 11.

TABLE 11 RESULTS OF THE EX-ANTE ANALYSIS AT PROCESS CATEGORY LEVEL - CoF

Category	Score	Rationale for scoring	Relative importance	Rationale for importance
Technology	3	The CoF will positively influence the development and adoption of skills that promote sustainability. Also, it will improve the development of research and technology for sustainability	20%	The city is still in the pre- development phase, which emphasizes the importance of introducing this type of actions.
Agents	3	The CoF is likely to engage and transmit required skills to tackle future challenges posed by climate change and others among children. Therefore, children become agents of change	30%	Beneficiaries and coalitions are key players to introduce and lead transformational change towards better consumption patterns, awareness of climate change and sustainable lifestyles.
Incentives	2	The policy is likely to be institutionalized in the Municipal government of Tarija, however due to political changes it is not guaranteed to last over time	10%	It is important to have the support of the Municipal government level and influence in a strategic level, however, as other experiences show, there is still possibility to promote change considering the CoF as a private action.
Norms	4	The purpose of the CoF action is to raise awareness and promote changes of behaviour and social norms, being children the agents of change. Therefore, the initiative is highly likely to bring relevant shifts in this category.	40%	The main purpose of the action is to boost habits change in children, being children the principal sponsors of change.

On the other hand, the results from the assessment in regards to outcome category shows higher scores at the scale of the outcome in relation of the adaptation to climate change and sustainable development as shown in Table 12.

TABLE 12 RESULTS OF THE EX-ANTE ANALYSIS AT OUTCOME CATEGORY LEVEL - CoF

Category	Score	Rationale for scoring
Scale of outcome – adaptation to climate change	3	The action is expected to result in adaptation to climate change impacts that compared to the starting situation represent large impacts at subnational level.
Outcome sustainable over time – adaptation to climate change	2	It is likely that over time the action will be institutionalized and supported by key stakeholders such as children (beneficiaries), parents, Municipal government, among others.
Scale of outcome – sustainable development	3	The action is expected to result in sustainable development impacts that compared to the starting situation represent large impacts at subnational level.

Outcome sustainable over time – sustainable development	2	It is likely that over time the action will be institutionalized and supported by key stakeholders such as children (beneficiaries), parents, Municipal government, among others.

Aggregated results to the impact level – processes and outcomes

The final result for the CoF concludes that the extent of transformation expected by the policy is moderate and the outcome is likely to be sustained over time as shown in Figure 5. Its expansion could be improved if there is guarantee of institutional support. Stakeholders showed interest in the action and willingness to help and implement the pilot project, however in order to be sustained it needs to have a solid financial scheme with external funds (CAF, IDB) and parents economical support.
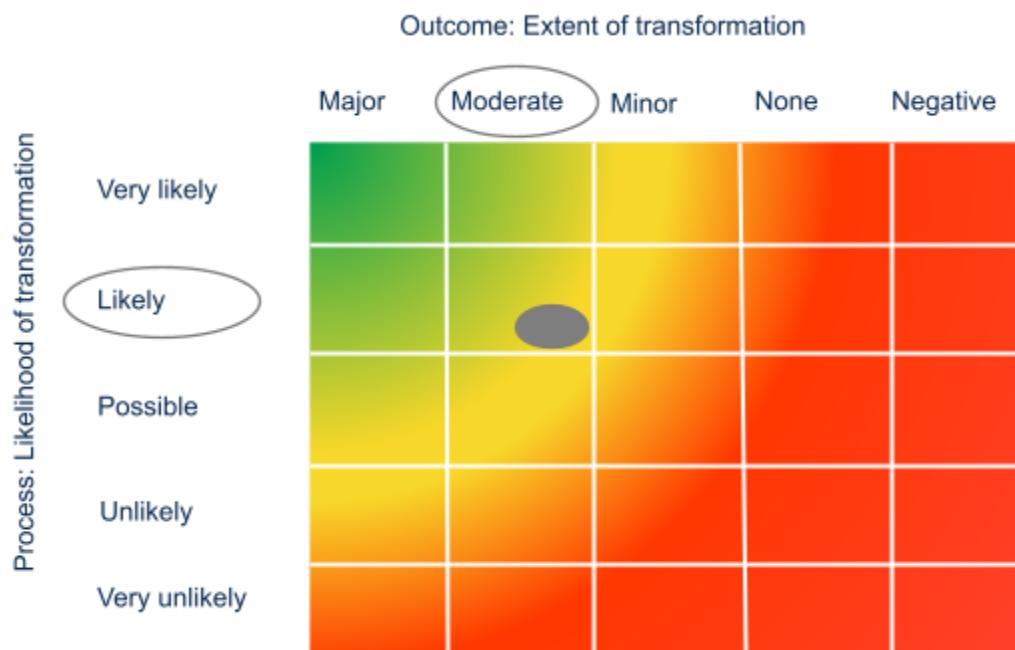

FIGURE 5 TRANSFORMATIONAL IMPACT MATRIX – CoF TRANSFORMATIONAL RESULTS

Chapter 5: Monitoring performance over time

To track the CoF transformational progress over time, the study developed a monitoring scheme mostly addressing the pilot phase, with potential to be utilized to assess the full range of the transformational impacts at 20 years (Long term scenario). The monitor scheme selects a range of 23 indicators that best capture the transformational progress of the CoF, and provides with a rationale for their selection, identifies the sources of indicator data, collection method and establishes a monitoring frequency and responsible entities for their calculation.

TABLE 13 CoF MONITOR AND REPORTING SCHEME

Indicator	Type of data (quantitative / qualitative)	Monitoring frequency and date	Data source/ collection method	Responsible entity	Observed data (unit)

		of collection			
Number of schools implementing the action	Quantitative	Annually	Reports	Municipal Government of Tarija and SASA	1 annual report[9]
Number of children participating	Quantitative	Annually	Reports	Municipal Government of Tarija and SASA	1 annual report
Number of children and parents supporting the initiative	Quantitative	Annually	Surveys	Municipal Government of Tarija and SASA	1 annual survey
Number of teachers trained and applying this method	Quantitative	Annually	Reports	Municipal Government of Tarija, SASA and schools	1 annual report
Institutionalization of the CoF action	Qualitative	One time	Municipal legal documentation	Municipal Government of Tarija	1 municipal ordinance or municipal law
% of children who feel more prepared to tackle climate change and other issues	Quantitative	Annually	Surveys	SASA	1 annual survey
Number of sustainable and adaptation projects proposed by past children	Quantitative	Annually	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
Number of children who can recognize and understand their physical bodies, functions and health	Quantitative	Annually	Questionnaires	SASA with the support of schools and the Municipal Government of Tarija	1 annual questionnaire
Number of children who practice meditation and self-knowledge activities	Quantitative	Annually	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
% of boys/girls' participation in activities	Quantitative	Annually	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
% of children who understand their rights and SDGs evaluated through activities	Quantitative	Annually	Questionnaires	SASA with the support of schools and the Municipal Government of Tarija	1 annual questionnaire
Number of net positive reactions from children to real situational activities	Quantitative	Monthly	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
Number of activities that establish connection between environment and children	Quantitative	Monthly and annually	Reports and observation	SASA with the support of schools and the Municipal	1 annual report

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[9] The reports should track activity by activity progress

				Government of Tarija	
Number of environmental actions or projects proposed by children	Quantitative	Annually	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
Number of climate change initiatives proposed by children for their schools and society	Quantitative	Annually	Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
% of children who promote water and energy efficient consumption	Quantitative	Annually	Questionnaires, Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report and 1 annual questionnaire
% of water and energy reduction in schools	Quantitative	Annually	School bills	SASA with the support of schools and the Municipal Government of Tarija	Report with all the bills of the school
Number of awareness activities regarding unsustainable consumption trends	Quantitative	Annually	Reports	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
% of children sensitive towards environmental issues and situations	Quantitative	Annually	Questionnaires	SASA with the support of schools and the Municipal Government of Tarija	1 annual questionnaire
% of children who show responsibility towards their environmental impacts	Quantitative	Annually	Questionnaires, Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report and 1 annual questionnaire
% of children who know how to identify their environmental impact	Quantitative	Annually	Questionnaires, Reports and observation	SASA with the support of schools and the Municipal Government of Tarija	1 annual report and 1 annual questionnaire
Number of innovative technological projects implemented by children according to their context	Quantitative	Annually	Reports	SASA with the support of schools and the Municipal Government of Tarija	1 annual report
Number of past children in decision making positions	Quantitative	Every 5 years	Questionnaires and tracking to participants	Municipal Government of Tarija and SASA	1 questionnaire each 5 years
Number of feedback meeting with stakeholders	Quantitative	Annually	Meetings and conclusions	Municipal Government of Tarija and SASA and other stakeholders such as school teachers, parents, district education	1 annual meeting

				direction, departmental education direction	

Chapter 6: Learning, Decision Making and Using Results

The study has successfully provided with meaningful insights for the CoF project design, methodology and implementation mechanism. Considering the scope of the study as an ex-ante assessment for transformational change, the process involved a high level of uncertainty given the unpredictable nature of how the CoF initiative will evolve over medium-term and, moreover, long-term. This brings up the ambiguity to assess the sustainability of the CoF implementation due to a high dependence to institutional and political commitment. In order to reduce these uncertainties and develop an accurate assessment, the team discuss and validate assumptions with stakeholders, expert's opinion and literature review, ensuring the development of the evaluation assess realistic conditions and characteristic relevant to the CoF context. Hence, the process to assess the transformational impact allowed us to identify three main observations and recommendations in regards to:

- **CoF implementation scope**

The original scope of the CoF initiative aimed to become a formal education strategy to be included in the established education curricula in schools of the city of Tarija. However, the scope was modified to best suit the education scheme at national and local level. The stakeholders' inputs and insights allowed to comprehend that the scope was not reachable, as the formal education curricula can be only modified by national authorities (Ministry of Education). However, it was possible to identify an alternative CoF scope in accordance with stakeholders, experts and the SASA team: the scope was modified to a non-formal education strategy. This scope enables the implementation of the CoF at local level in a faster and effective manner.

- **Implementation mechanism and stages**

Complementary to the previous observation and recommendation, the CoF implementation stages and mechanisms were modified to suit the non-formal approach. Initially the CoF contemplated its implementation through the municipal government Sustainable Development Secretariat and their Eco-Schools Programme; now, the CoF includes the PSP tools from schools as an implementation mechanism. Additionally, the stages were also modified now establishing meetings and workshops with stakeholders (teachers, parents, schools' boards and experts) as a first stage, in order to ensure their engagement and promote their commitment.

- **CoF connection/ interdependence to national and local education schemes**

Additionally, to previous observations, at this moment, the CoF design includes a clear connection/ interdependence with national and local education schemes such as the National Education Curricula and the tools comprised under its frameworks such as the PSP. Establishing this connection facilitates to escalate the CoF at micro and macro levels.

- **CoF activities selection**

As a result of the review and in-depth analisys of the CoF components and activities with the stakeholders and experts, these were modified and updated according to their inputs and the context characteristics. The current design of the CoF provides with activities approved by the stakeholders.

Annex 2

Assessment of impacts

Description of specific impacts expected

The main impacts covered by the assessment were selected and identified on the base of the objective, the context and through stakeholder's consultation. These impacts are: Environmental impacts, social impacts, economic impacts and technological impacts.

The specific impacts expected and characteristics have been identified through researching and stakeholder's participation.

The following table shows the process impacts and characteristics selected considering their relevance and importance for the CoF Project.

Component	Impacts
Humanology (personal growth)	- -Children with knowledge and self-awareness of physical, spiritual and mental elements -Children with more skills and techniques to control their emotions -Improvement in communicational skills with their classmates, parents and society -Discipline and organization enhancement -Empathy increasement -Reduction of problems among classmates such as bullying -Improvement of self-confidence and self-esteem to make better decisions
Citizenship and gender	- -Boys and girls recognize the need of a balance in gender participation -Increase of equal opportunities for boys and girls to participate in activities at school -Empowerment of girls towards society -Better understanding of human rights and SDG's (children's rights, role and duties in their society) -Increase in social values to promote community living (e.g. respect, solidarity, good behaviour and attitude, responsibility, leadership, etc.) -Decrease of violence among children, and with their parents and their society -Increase of solidarity and healthy teamwork competence -Better understanding of their sexuality, their rights and responsibility -Self-defence skills acquired -Children understand and respect cultural differences and promote race equality
Environment	- -Connection established between children, nature and their surroundings -Increased understanding of the role of ecosystems in their daily lives (air, water, land, biodiversity, waste) -Children understand the direct impact of their actions and behaviour in the environment -Engagement of children to propose and apply solutions to protect the environment and decrease their impact -Acquirement and use of skills, instruments and technology to identify their environmental impacts (footprint calculators, bioindicators, sensors, etc.) -Increase understanding of climate change -Children are able to promote and demand climate action from their leaders

Sustainable and resilient practices	- -Children understand current unsustainable consumption trends -Children practice sustainable and healthy consumption patterns -Children choose or ask their parents to select more clean and efficient transport modes (walking, bicycles, public transportation, shared vehicle, among others) -Children learn and apply sustainable eating practices such as urban agriculture, organic and healthy food -Children learn and apply sustainable local and indigenous practices and customs (bioindicators, elderly traditions) -Children advocate the use of renewable energy and promote energy and water efficiency actions in their households and communities -Children apply the 5 R's of waste management (refuse, reduce, reuse, recycle and recovery) and other waste treatment practices (compost)
Innovation and technology	- -Basic technological skills promoted among children -Children learn and apply technological skills through the design of mobile applications, web pages, VR and robotics -Children use social media as a source of knowledge, communication and exchange of opinions to reinforce their role as agents of change in their societies -Children acknowledge the risks and benefits of the use of social media -Children propose technological solutions related to the (components)
Methodology	- -Fast learning through non-traditional methods (learn with games, different grading mechanisms) -Children are more motivated to acquire new knowledge through actions and activities -Broaden current grading criteria introducing new grading mechanisms (no grades, no failing, no hurry) -Increase of children participation and engagement in all activities -Development of relaxed and collaborative spaces to learn (e.g. Outdoor classrooms, technological and experimental labs, creative spaces) -Development of creativity, critical thinking and discernment -Introduce a new teaching model in schools -Creation of new teaching capacities and techniques among teachers, school board and parents
General	- -Institutionalization of the initiative -Replication of the action in other cities