Funding Proposal Template

Application Template for Fully-Developed Proposal and Project Concept Proposal[1]

ADAPTATION FUND

PROGRAMME ON INNOVATION: LARGE GRANTS PROJECTS

REQUEST FOR PROJECT FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared when the request is submitted.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN N7-700
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

[1] Single Country and Regional Concept proposals should complete Part I and Part II of the Project Proposal Template.

ADAPTATION FUND

SINGLE COUNTRY/ REGIONAL INNOVATION PROJECT/PROGRAMME PROPOSAL

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay

Country/ Countries: Uruguay

Thematic Focal Area[2]: Food security, Water management, Rural development

Type of Implementing Entity: National Implementing Entity

Implementing Entity: Corporación Nacional para el Desarrollo (CND)

Executing Entities: Instituto Interamericano de Cooperación para la Agricultura (IICA)

Amount of Financing Requested: 5,000,000 (in U.S Dollars Equivalent)

Amount of Requested financing for PFG: 150,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes

Stage of Submission: This is the first submission ever of the concept proposal

[2] Thematic areas are: Agriculture, Coastal Zone Management, Disaster risk reduction, Food security, Forests, Human health, Innovative climate finance , Marine and Fisheries, Nature-based solutions and ecosystem based adaptation, Protection and enhancement of cultural heritage, Social innovation, Rural development, Urban adaptation, Water management, Wildfire Management.

Project / Programme Background and Context:

The proposed project aims to address the following issues:

1. The production of vegetables holds significant importance in Uruguay, owing to its contribution to food sovereignty and security. However, this chain is highly susceptible to extreme weather events such as droughts, water excesses, hailstorms, strong winds, and frosts, as well as the diseases and pests that emerge when such weather conditions occur (MGAP and SNRCC, 2019). Furthermore, it is anticipated that the frequency and occurrence of these events will increase in the future as climate change intensifies.

2. Drought is one of the most critical climate challenges facing the Uruguayan horticultural sector, characterized by a significant increase in frequency over the last 30 years (MGAP, 2024). Historically, these events are strongly influenced by the La Niña phenomenon, which typically brings periods of severe water deficit to the region. Between 2020 and 2023, Uruguay experienced an unprecedented rainfall deficit that triggered four consecutive agricultural emergencies. This period resulted in losses for the agricultural sector reaching $1.883 billion. Furthermore, the lack of water and the low prices of previous years have led to a nationwide shortage of horticultural products (MGAP, 2023).

3. The crops whose yields were most affected in this period were potatoes, onions, carrots and tomatoes. In particular, fruiting vegetables, such as tomatoes and bell peppers, showed differences between the south and north of the country, mainly due to better access to groundwater sources in the north, which mitigated the impact (Ackermann, 2023).

4. Potato production was reduced during the 2022-2023 spring-summer cycle, reaching less than 17,000 tons, which represents a 44% drop compared to the previous year. This was due, on one hand, to a decrease in planting area and, on the other, to adverse weather conditions. As a result of the high temperatures recorded, the potato crop faced quality issues during the summer of 2023, where rot was observed along with upward price pressures for higher quality lots in March and April. During September and October 2023, quality problems associated with length of storage emerged, resulting in dehydrated tubers that sprouted rapidly at room temperature. Overall, the year 2023 closed with a total production of just under 68,000 tons, a 26% decrease from the previous year (Ackermann, 2023).

5. Onion production in 2023 was primarily affected by the water deficit in the southern part of the country, with national production estimated at around 26,000 tons, a level similar to the previous year. Despite this, the supply of commercial-quality products was limited, leading to imports at certain times (July-August) to meet the demand for marketable-quality products. The drought caused poor bulb size development, with a predominance of medium and small sizes. Likewise, although the specific causes were not detailed, issues with rot, softening, loss of outer scales, and sprouting appeared during March and April (Ackermann, 2023).

6. The carrot supply declined during the first months of 2023, reflecting the impacts of the water deficit and high temperatures, mainly regarding product quality and difficulties in crop establishment, development, and storage. Total production for the year was estimated at approximately 25,000 tons, representing a 25% decrease compared to 2022. The critical period occurred between February and May, necessitating the import of products from the region to supplement the national supply (Ackermann, 2023).

7. Tomato production during the summer of 2023 also faced problems associated with drought and high temperatures. Total annual production was estimated at 34,000 tons, which, despite the climatic challenges, represented a slight increase compared to the previous year. Open-field crops were the most

affected, as were greenhouse crops in the southern zone in areas with limited water availability for producers. Consequently, most tomato batches exhibited sunburn, uneven coloration, overripening, insect damage, and smaller fruit sizes. Additionally, high temperatures caused failures in fruit setting, which further limited the supply, and it was necessary to import at certain times.

8. Projections indicate that the frequency of these events will continue to rise in Uruguay. The SPEI-based drought index for the country for the period 2021–2040 under a below 2°C scenario has a value of 10.7, with an uncertainty range of 5.8 to 16.6. This suggests that Uruguay is expected to experience an increase in drought events in the short term compared to the 1995–2014 reference period (Climate Vulnerability Monitor, 2026).

9. Similarly, higher temperatures also affect the production of potatoes and leafy, bud and inflorescence vegetables (lettuce, cabbage, cauliflower, broccoli, Brussels sprouts, spinach, or leek). Additionally, water deficits affect all horticultural and fruit-growing sectors. Furthermore, the projected temperature increase, coupled with the lower incidence of frosts, could eliminate the current comparative advantage that the North area has with respect to the South area, thus increasing its economic vulnerability (MGAP & SNRCC, 2019).

10. Regarding this extreme event, irrigation is a widely practiced method in the agricultural sector, although there are differences within it. Crops with the highest relative irrigated area (those with between 75% and 100% of their total cultivated area under irrigation) include, in descending order: strawberry, tomato, bell pepper, zucchini, eggplant, lettuce, broccoli, beetroot, cabbage, round zucchini, parsley, spinach, melon, potato, and leek (Fig. 1). However, the water sources supplying irrigation are not always sufficient to meet the demand of the products (Grupo de Monitoreo de la Situación Hídrica, 2026), and in many cases, producers do not have a clear understanding of how much water to use and when (Berrueta et al.,2025).

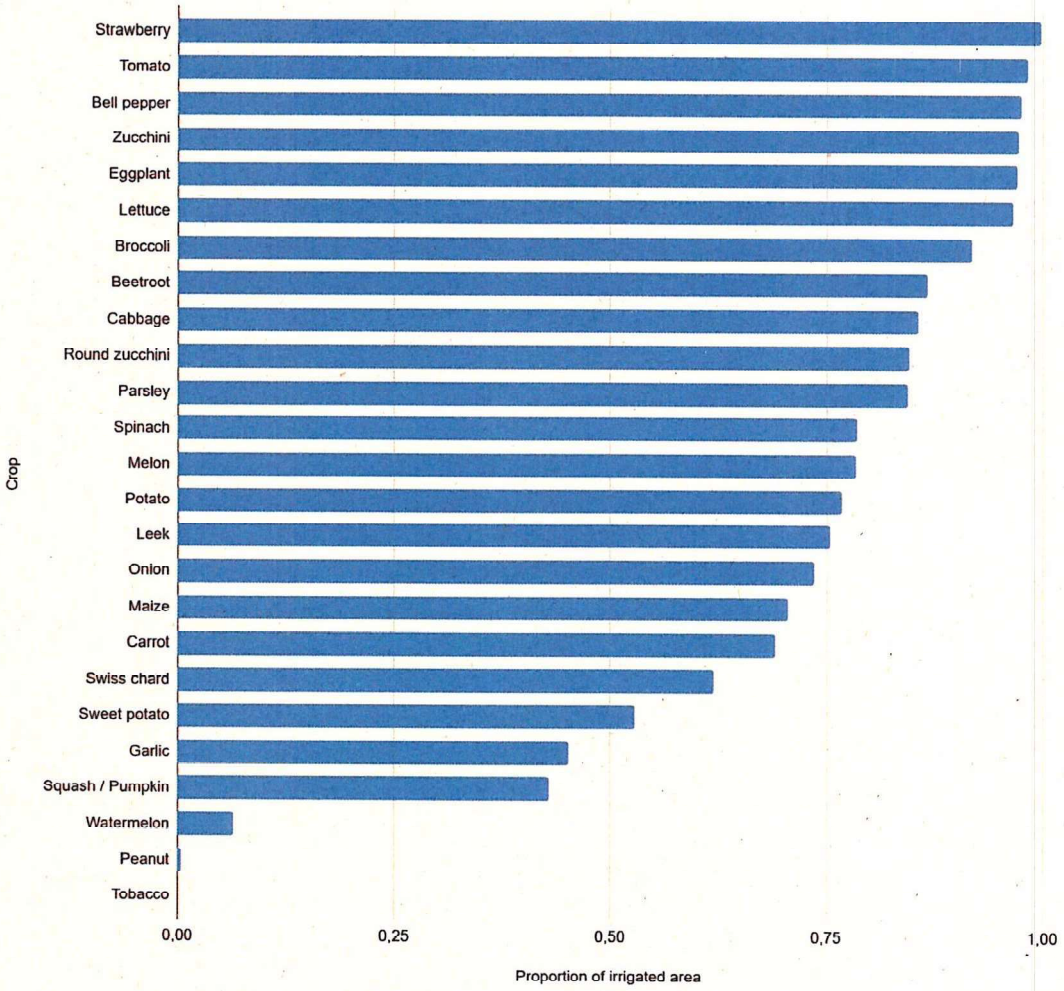

Figure 1. Ranking of crops according to the relative frequency of irrigation. To avoid biases associated with crops with very small cultivated areas, the analysis focused on crops with a total declared area equal to or greater than 20 ha. In addition, sweet potato, tomato, lettuce, potato, carrot, squash, pumpkin, and butternut squash were grouped into a single crop category. Source: (MGAP, 2025).

11. The impacts of drought on horticultural production depend not only on water availability and irrigation management, but also on soil condition and its capacity to retain and regulate water. In Uruguay, pre-existing soil degradation processes have reduced the ability of horticultural soils to buffer climatic stress. Soils affected by erosion and negative organic matter balances have a significantly reduced capacity to store water. This lack of "buffer" makes these systems far less resilient to environmental disturbances such as severe droughts or intense rainfall. Currently, most horticultural farms face sustainability threats because the technologies employed favor erosion rates that exceed tolerable limits (Dogliotti et al., 2021; Hill et al., 2015). Additionally, while southern horticultural soils suffer from high water erodibility (INIA, 2023), northern soils sometimes experience soil mining due to the frequent cultivation of crops, such as sweet potatoes (Dogliotti et al., 2021). Similarly, droughts increase salt accumulation and alkalinity, especially in greenhouse crops (Berrueta & Grasso, 2024). Finally, routine irrigation management, rather

than irrigation based on actual demand, leads to leaching and contamination in areas of intensive production in Uruguay (Berrueta et al.,2025).

12. Another key dimension of vulnerability relates to the spread of pests and diseases, which climate change exacerbates in a context of greater global connectivity (FAO, 2025). Protected horticulture systems create an environment conducive to pest development year-round, often leading to increased reliance on chemical inputs (Polack et al., 2017). Despite the significant achievements of Regional Pest Management in Uruguay, the innovation system continues to focus on the marketing and sale of agrochemicals (Scarlato et al., 2022), hindering the adoption of alternatives such as biological control. Furthermore, many producers base their application decisions on standard routines, without considering technical criteria or precise monitoring, even though it has been proven that there is considerable room to reduce agrochemicals in the country's horticultural systems without compromising crop yields (Scarlato et al., 2022). While many strategies are being developed with promising results, a significant scale-up of these practices has not yet occurred.

13. Agroecological transitions represent a promising pathway toward building more resilient horticultural systems, an area in which Uruguay has a relevant foundation of national strategies and projects that support their scaling up (such as Law 19.717 and the PNA Agro). However, significant constraints remain that need to be addressed. The horticultural market is currently highly centralized in the capital through the Unidad Agroalimentaria Metropolitana (UAM, by its Spanish acronym) (Millán & Romero, 2023). In this context, intermediaries largely determine purchasing conditions for producers (Florit 2023; Moliní Gimeno & Reverter Bañón, 2022), in some cases promoting a forced specialization toward monocropping (Scarlato et al., 2026), which could limit the possibilities for designing agroecological systems incorporating other crops and favor greater biodiversity.

14. To date, certifications for agroecological or integrated production products have had limited commercial impact (Millán & Romero, 2023). In addition, producers consulted during the preparation of this project highlight a lack of knowledge and technical advisory services in agroecology, as well as constraints in access to financial resources. Furthermore, certifications only hold value if consumers are willing to pay for them, yet there is currently a significant bottleneck in consumer education. Without communication campaigns to inform the public, market interest in certified products remains limited.

15. Finally, the production instability associated with the aforementioned phenomena leads to price and income volatility in the sector, jeopardizing the livelihoods of family farmers and making it challenging to enter new markets.

The current situation, the desired future, and the gap between

16. The project aims to enhance the climate change adaptive capacity and resilience of family-based horticultural systems through improved access to and more efficient use of water resources (including rainwater harvesting and the scaling of irrigation technologies) the promotion of agroecological transitions focused on soil health, and the implementation of sustainable pest management. Additionally, the project focuses on strengthening the availability of locally adapted seeds, improving economic-financial management to mitigate climate risks, and enhancing market access and product valorization.

- **General economic, social and development context**

17. Uruguay is one of the smallest countries in South America, covering an area of 176,215 km2, and is characterized by a relatively stable political and social environment. It has a population of 3,499,451 according to the 2023 National Population Census. About 96% of the population lives in cities and towns, while only 4% reside in rural areas. Additionally, nearly 37% of the population resides in the capital, urban Montevideo. The country is also marked by a high aging index, a result of low birth rates, high life expectancy and a relatively high emigration rate.

18. In terms of economic activity, following the 2002 crisis, the Uruguayan economy experienced sustained growth for approximately fifteen years. However, in 2018 and 2019 it remained relatively stagnant, and then recorded a sharp decline in 2020, of around 6%, mainly as a result of the impact of Covid-19. In 2022, the economy returned to a growth path, with GDP expanding by 4.9%. Nevertheless, growth was much more moderate in 2023, reaching 0.4%. In 2024, the economy expanded again, with real GDP growing by 3.1% compared to 2023, driven, among other factors, by the recovery of agricultural production following the drought and by improved external sector performance. According to the IMF's 2025 Article IV Consultation report, growth in 2025 is projected to be more moderate, at around 2.5%. Meanwhile, the agricultural sector accounts for approximately 7.2% of Uruguay's GDP. (Banco Central del Uruguay, 2025).

19. Uruguay exhibits relatively low levels of income-based poverty in comparison to other countries in the region; however, structural forms of poverty remain entrenched, especially affecting children and afro-descendant populations. According to the National Institute of Statistics (INE, 2025), in its report "Poverty Estimation by Income Method," 17.3% of the population was living in poverty in 2024, while 1.5% were living in extreme poverty. Geographically, the departments with the highest rates are Artigas, Rivera, Cerro Largo, and Salto. In Montevideo, the poorest households are located in municipalities A, G, D, and F. Overall, poverty is decreasing in the country compared to previous years, supported by small increases in labor force participation and employment (about one percentage point each), along with a recovery in household incomes (World Bank, 2025).

20. Beyond income indicators, the Multidimensional Poverty Index (MPI), introduced in 2025, reveals ongoing structural vulnerabilities. In 2024, 18.9% of the population (around 661,000 people) was multidimensionally poor. The main areas of deprivation are education (46% live in households with insufficient schooling), employment (29.2% face informality or precarious work), and housing (17.4% live in structurally inadequate dwellings). Poor job quality and limited social protection remain key factors behind these conditions (World Bank, 2025).

21. Meanwhile, the Gini index declined from 0.417 in 2023 to 0.405 in 2024, suggesting a recent reduction in inequality. However, this improvement followed an increase in inequality after the pandemic, undoing part of the progress made between 2004 and 2019 (World Bank, 2025). The departments with the highest levels of inequality are Montevideo, Cerro Largo, Canelones, Florida, and Rocha (INE, 2024).

22. The production of fruits and vegetables plays a significant role in efforts to reduce poverty and malnutrition in all its forms, including undernutrition (wasting, stunted growth, below-normal weight), inadequate intake of minerals or vitamins, overweight, and obesity, which lead to non-communicable diseases related to metabolism (FAO & CIRAD, 2021). This is especially true in a context where there is a vulnerable population that cannot consistently access a sufficient quantity of safe and nutritious food and in a country

where the average consumption of fruits and vegetables is much lower than recommended by the WHO (about 40% less[3]).

23. Moreover, the price level of fruits and vegetables also affects access to them. In this regard, these products account for 3.6% of the total Consumer Price Index (CPI) in Uruguay according to the October 2022 base of the INE (2022), and it reaches 3.85% in the countrywide average without considering its capital. The consumption basket implicit in the CPI is representative of an average household in the country. It is likely that the weight of this component in lower-income households is even greater, underscoring the need to avoid significant price hikes in the event of an extreme weather event, which would make it more difficult for vulnerable populations to access these products.

24. The cost of maintaining a healthy diet in Uruguay has also risen in recent years. By 2022, this daily expense per person increased to USD 3.64, up from USD 2.87 in 2017. Accordingly, the percentage of the population unable to afford a healthy diet grew from 21.1% in 2017 to 26.1% in 2022 (INE, 2024).

- **Sectoral economic, social and development context**

25. In 2021, the GDP of vegetable and fruit production accounted for 10% of the total value added in the primary sector (Millán and Romero, 2023). In 2024, the total supply of vegetables for fresh consumption at the national level was approximately 260,000 tons (UAM, 2024). The Metropolitan Agro-Food Unit (UAM) is the country's primary wholesale market where wholesale prices are set and used as reference points by the rest of the complex. A significant portion of fruit and vegetable consumption comes from local production. Uruguay only requires importation of certain items at specific times to complement the local supply, either due to quantity or quality (between 3 and 5% annually, according to the Farmer's Observatory). Moreover, the majority of production is destined for the domestic market, with only a few items being exported (mainly citrus fruits) (Millán and Romero, 2023).

26. Horticulture is a key sector for family farming[4], contributing more than half of the economic value generated in this area. It occupies 20% of family production units, representing the second largest sector for family farming, after livestock (MGAP, 2024). Furthermore, approximately 80% of producers in the horticultural sector are family farmers (Ackermann et al., 2024). As of March 16, 2026, the Registry of Family Producers identifies a total of 16,396 Family Productive Units (UPF) and, within this group, horticulture stands out as a significant sector, serving as the primary activity for 3,443 of these units.

27. In 2022, family horticulture generated a Gross Production Value (GPV) of approximately $2.822 billion current pesos (equivalent to around USD 71 million at the 2022 average exchange rate), which represents 54% of the total national horticultural sector (Ackermann et al., 2024).

28. Furthermore, the horticultural and fruit farming sector provided approximately 28,000 jobs in 2021, according to the Continuous Household Survey (National Institute of Statistics), representing 21% of the workforce in the agricultural sector (Millán and Romero, 2023).

29. From a gender perspective, Uruguayan family farming presents structural knots of inequality that restrict women's economic autonomy and their capacity to adapt to climate change. Rural women have

[3] The consumption of fruits and vegetables in Uruguay is around 340 grams / person / day and 250 grams / person / day if tubers are excluded. The WHO, meanwhile, recommends consuming 400 grams/person/day of fruits and vegetables without tubers. Ackermann, M.N. (2021) Horticultural sector: structural characteristics, current situation and prospects.

[4] According to Resolution No. 1,013/016 of the MGAP, a Family Agricultural Producer is considered to be any natural person who directly manages a farm and/or carries out an agricultural productive activity and meets the requirements set out in this resolution.

significantly less access to productive assets, holding title to only 19.7% of land ownership and managing smaller-scale areas (just 11.2% of the total surface) compared to their male counterparts. Furthermore, a critical remuneration gap persists: 35% of women working permanently on farms receive no payment, in contrast to 12% of men. This situation is further compounded by a high global workload due to the overlap of productive and care-giving responsibilities, alongside mobility constraints such as the lack of vehicles and driver's licenses. Despite these barriers, women remain central agents of climate resilience, leading seed conservation efforts and agroecological transitions (MGAP, 2024).

30. The distribution of tasks in the horticultural sector shows a sexual division of labor. Table 1 shows how, within farms, the distribution of tasks between women and men presents variation.

Sex	Tasks
Women	- Sowing and transplanting seedlings - Conditioning and packaging of production - Household decision-making and distribution among family members
Men	- Soil preparation - Management of fertilizers and phytosanitary products - Loading and unloading tasks - Organization and supervision of hired workers - Productive and household decision-making

Table 1. *Main tasks by sex in horticultural production. Source: MGAP & FAO (2021).*

31. Regarding agroecological production, Gómez Perazzoli et al. (2024) present a detailed characterization of agroecological family farming in Uruguay, based on data from the Uruguay Agroecology Network (RAU, by its Spanish acronym). Some socio-economic aspects related to this type of production are relevant for the general characterization of the sector. Family farming represents 92% of certified farms. On these holdings, 76% of the people working on the farms are related to one another. Additionally, labor demand is high, with an employment coefficient of 0.3 people per hectare. Women play a prominent role compared to the national Uruguayan context. On one hand, the percentage of women who are owners or co-owners of the land on these farms is 42%, in contrast to the national figure of 24%. Moreover, women constitute the majority of the RAU's membership at 53%.

32. Short marketing channels, especially direct-to-consumer sales and neighbourhood fairs, represented 42% of sales. This confers certain advantages, such as greater autonomy compared to the national market (where conventional producers mostly depend on intermediaries) and the achievement of higher and more stable prices throughout the year. Finally, an increase in sales has been observed, with organic food sales reaching 6.4 million dollars in 2021 (Fig. 2).

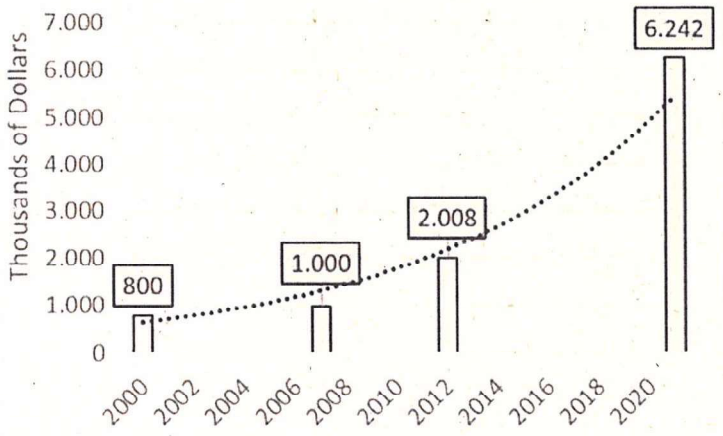

Figure 2. *Evolution of organic food sales in the domestic market. Source: Gómez Perazzoli et al. (2024), based on Soriano Fraga (2012) for information between 2000 and 2012.*

- **Environmental Context**

33. According to climatological characteristics from the Instituto Uruguayo de Meteorología (INUMET), the mean annual air temperature in Uruguay varies spatially from approximately 16 °C in the Atlantic coast of Rocha to around 19 °C in Artigas, reflecting a general SW–NE gradient. Precipitation in the country is fairly evenly distributed throughout the year, with mean annual totals ranging broadly across regions. In terms of spatial distribution, there is a descending gradient from the northeast to the southwest, with a maximum total annual rainfall of 1,500 mm and a minimum of approximately 1,000 mm, according to data from the Uruguayan Institute of Meteorology (INUMET, n.d.).

34. Beyond the average data, there is a significant variation in the amount and distribution of rainfall between years. An increasing trend in both precipitation and the number of severe rainfall events has been recorded. Additionally, in years with a predominance of the "La Niña" event, the country has experienced intense and prolonged droughts. On the other hand, there is a trend towards higher temperatures, more frequent heat waves, and a reduced frequency and duration of frost periods. Looking ahead, climate projections indicate a continuation of these patterns and an intensification of extreme events (MGAP and SNRCC, 2019; SNRCC, 2022). Specifically, by 2050, an increase of 9% in average precipitation is expected in the horticultural and fruit farming zone in the north of the country, and between 6% and 12% in the southern zone compared to the values from 1986-2006. Likewise, an increase of around 1% is anticipated in both zones for average temperature in the same comparison (see Fig. 3) (Climate Analytics, 2023).

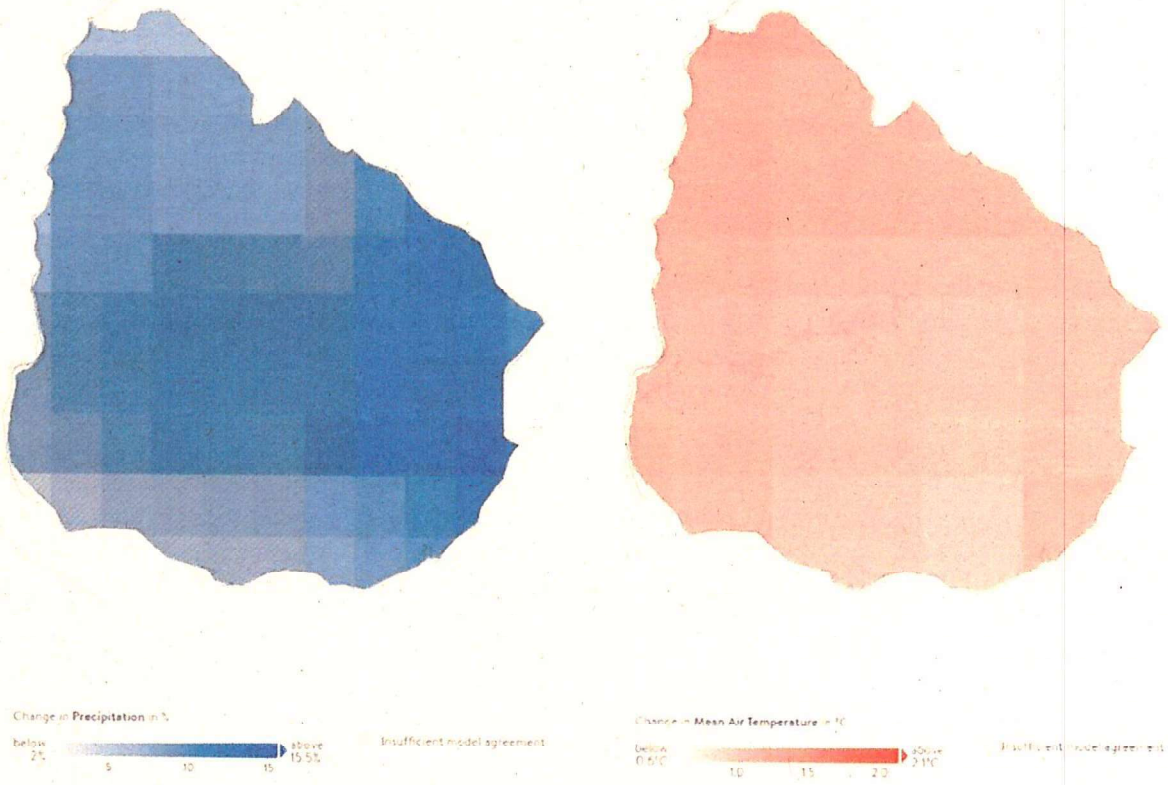

Figure 3. *Projected Change in % for Precipitation (left map) and Average Temperature (right map) in Uruguay in 2050 compared to 1986-2006, assuming the continuation of current policies. Source: Climate Analytics.*

35. Grasslands (locally referred to as *campo natural*) are the predominant ecosystem in Uruguay. They are primarily composed of native grasses, along with a diversity of herbaceous species, shrubs, and, to a lesser extent, trees. These ecosystems are estimated to cover approximately 60% of the national territory and form part of the Río de la Plata grasslands, one of the most significant temperate grassland regions worldwide.

36. This ecological base is closely linked to Uruguay's edaphic characteristics. The country is characterized by highly productive soils, predominantly Mollisols (molisoles), known for their thick, organic matter–rich surface horizon (Giménez et al., 2025). However, transformations in land cover and land use have increasingly compromised this condition. From 1985 to 2023, a marked decline in grassland cover can be observed, alongside an expansion of agricultural and forestry land uses; agricultural land currently accounts for 32% of total land cover (MapBiomas, 2025).

37. This transition from natural grasslands to cropland has not only altered landscape structure but also soil ecological processes. It has been accompanied by a reduction in fungal diversity and shifts in the bacterial composition of agricultural soils. Additionally, agricultural soils show a decrease in genes and enzymes responsible for nutrient cycling (particularly nitrogen and phosphorus) and for the decomposition of microbial necromass, potentially affecting long-term soil health and carbon sequestration capacity (Giménez et al., 2025).

38. In intensively managed watersheds, these pressures become even more evident. In the Río Santa Lucía basin, for example, excessive application of organic and synthetic fertilizers has led to critically high phosphorus accumulation in soils. Labile phosphorus (Bray-P1) values of up to 113 mg/kg have been recorded, far exceeding agronomic requirements (Barreto et al., 2017).

39. Soil carbon constitutes the primary indicator of soil quality and productive potential in the country, and its depletion directly reduces crop yield potential. Intensive agricultural practices have historically resulted in losses of Soil Organic Carbon (SOC) ranging between 25% and 75% relative to original levels (García Inza et al., 2023).

40. Water erosion further compounds these dynamics. Conventional tillage systems in crops, such as tomato and onion, leave large areas of bare soil exposed, increasing the risk of water erosion (Alliaume et al., 2014). Together, these processes illustrate how land-use change and management intensification are progressively undermining the ecological integrity and productive foundations of Uruguay's soils.

41. Traditional family farming systems harbor a great diversity of species and varieties. This diversity of cultivated species derives from the cultural syncretism between indigenous peoples, Europeans, and Africans who have coexisted in this territory (with archaeological findings of crops dating back as far as 4,900 years BP and the formal colonial encounter beginning in the 16th century). Genetic richness evolved through selection and cultural processes in response to different environments, cultural backgrounds, and needs (Rivas et al., 2023).

42. The genetic erosion associated with the loss of these varieties is fundamentally based on processes such as rural-to-urban migration and the aging of the rural population. Other critical factors include the lack of generational replacement, the substitution of landraces by commercial cultivars with higher input requirements, and the spread of diseases. Specific instances of this genetic erosion include the loss of the white-pointed popcorn maize, which was common in the 20th century but is now considered lost in the present. Furthermore, landraces of *Cucurbita argyrosperma* have become quite rare compared to their prevalence forty years ago. The genetic diversity of onion is also under risk as local populations are increasingly replaced by improved cultivars. Finally, the traditional cultivation of peanuts and grass pea (a neglected and underutilized species) has significantly decreased since the 1980s (Rivas et al., 2023).

43. In relation to this context, landrace varieties and local seeds have been maintained for years by producers due to their good adaptation, despite sometimes presenting average productivity or certain commercial deficiencies. Given this scenario, the National Institute for Agricultural Research (INIA, by its Spanish acronym) has prioritized research related to the evaluation, selection, and development of horticultural varieties and seed production systems to achieve self-sufficiency.

44. This initiative responds to the fact that, two decades ago, a significant portion of production depended on imported seeds, which could have low adaptation, high costs, and supply instability. Additionally, the creation of hybrids and increasing plant variety protection made access to improved varieties difficult and costly. Consequently, efforts have been directed toward valuing the local genetic heritage to develop adapted varieties with better yields and commercial quality. This has led to genetic improvement processes in crops such as garlic, onion, and grain legumes. In other cases where local germplasm was non-existent, such as potato, sweet potato, strawberry, and tomato, external germplasm was utilized (INIA, 2009; 2022).

Project area

45. Horticultural production in Uruguay is concentrated near major population centers. There are two distinct regions: the southern and northern parts of the country. The southern region is the largest in terms of the number of hectares and producers dedicated to the sector, primarily encompassing the departments of Montevideo (the capital of the country and where half of the population resides), Canelones (the second most populous department), and San José. The northern region primarily covers the department of Salto (the fourth most populous, according to the 2011 census). In much of the southern region, water availability is limited, and there is greater competition for its use, including the extraction of water for human consumption that supplies approximately 60% of the country's population. The northern zone has relatively greater water availability (Ministerio de Ambiente, 2017).

46. Climate impacts also vary by region. The average annual temperature and precipitation are lower in the south than in the north (17°C compared to 19°C and 1,140 mm compared to 1,390 mm respectively, based on the 1991-2020 averages) (INUMET, 2026). Both zones face severe levels of soil erosion in a considerable portion of the area occupied by the sector (MGAP, 2020).

47. As previously mentioned, approximately 80% of producers in the horticultural sector are family farmers (Ackermann et al., 2024). The spatial distribution of family farming units (UPF) whose primary activity is horticulture reveals a marked territorial concentration in southern Uruguay, particularly in Canelones. In contrast, northern and eastern departments exhibit comparatively lower values (Fig. 4).

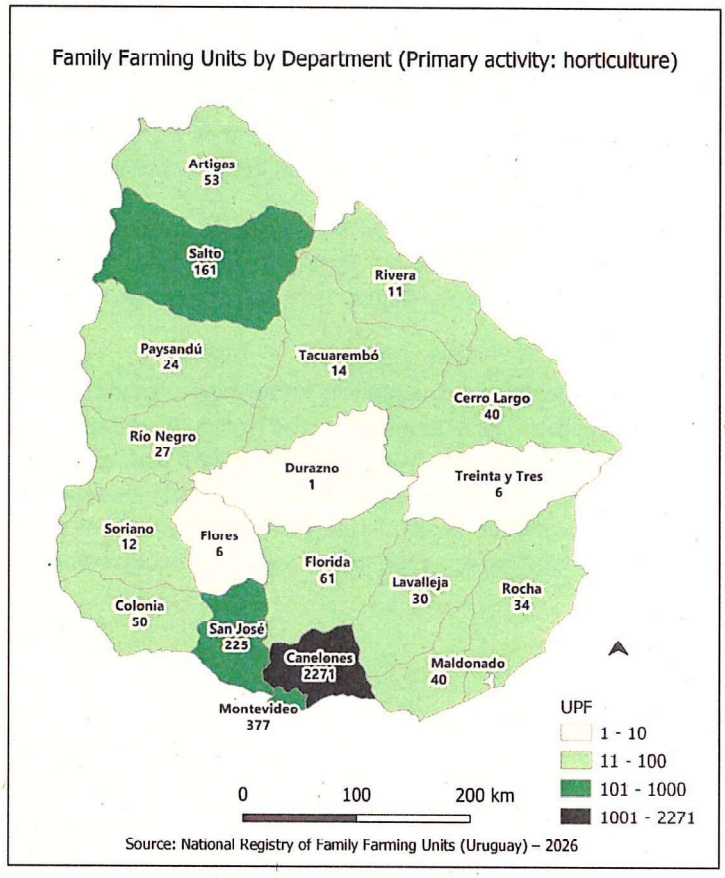

Figure 4. *Number of Family Farming Units whose primary activity is horticulture, by department. Source: own elaboration based on data from the National Registry of Family Farmers (2026).*

48. The map represents family farming units across Uruguay whose main production activity is horticulture. The MGAP Family Producer Registry is the official tool of the Ministry of Livestock, Agriculture and Fisheries (MGAP) for identifying and characterizing family farmers in the country. In addition to identifying producers whose main activity is horticulture, the registry provides information on other characteristics that make it possible to assess their level of socioeconomic vulnerability. Based on this information, and in line with the criteria used by MGAP when applying differentiated public policies to the most vulnerable segment of family farming, the project defines a delimitation of the target universe based on the following parameters: that the productive unit constitutes the household's main source of income, that family labor is predominantly carried out within the unit itself, that the maximum production area does not exceed 100 hectares CONEAT 100, and that no permanent hired workers are employed. This delimitation seeks to identify the most socioeconomically vulnerable producers, whose livelihoods are firmly rooted in family-based horticultural systems and who are therefore central to the proposed intervention. According to these criteria, the project's target population is estimated at 1,978 farming units meeting these conditions, representing a total of 3,542 farmers, 44.2 % of whom are women.

49. From this target universe, the project will directly reach 400 farming units through technical assistance aimed at strengthening adaptive capacities, promoting agroecological transitions, improving water management, supporting certification processes, and reinforcing economic and financial planning for climate risk management. These 400 farming units would represent an estimated 716 direct beneficiary farmers. To identify these direct beneficiaries, DIGEGRA-MGAP will launch a national public call. Within the broader target universe defined above, additional eligibility criteria will be established to prioritize producers with greater levels of vulnerability and less access to previous support. These criteria are expected to include, among others, registration in the Ministry's Farming Registry, not having received private technical assistance during the previous year, and the prioritization of women and young farmers.

50. In addition, an estimated 100 more farming units are expected to benefit through support to collective water access infrastructures in areas facing the greatest constraints in water availability. These units would represent an additional 179 direct beneficiary farmers. In total, the project would directly benefit an estimated 895 farmers.

51. Additionally, the project will generate and disseminate knowledge products aimed at expanding the reach of its capacities and supporting their replication across the horticultural sector. Practices and experiences developed through project implementation will be documented and shared through audiovisual and editorial materials, contributing to broader uptake beyond direct beneficiaries. Finally, the general population would benefit from improved product safety and quality, as well as the expected reduction in price variability of fruits and vegetables resulting from greater production stability, as the sector would be more climate change-adapted.

Problem Statement:

52. Horticultural production in Uruguay is facing a vulnerability crisis driven by increasing climate variability and deficiencies in natural resource management. The greater frequency and intensity of extreme events, such as recent droughts, have not only generated economic losses but also, in certain cases, caused shortages of horticultural products and price volatility, directly affecting the population's access to a healthy diet. This situation is further compounded by historical soil degradation, where erosion and the loss of organic matter reduce water retention capacity.

53. Additionally, water management is often inefficient due to a lack of technical knowledge regarding actual crop water demand and the insufficiency of supply sources, especially in the southern region of the country. Furthermore, the production system maintains a high dependency on chemical inputs and routine applications; this, combined with the loss of genetic biodiversity and adapted landrace seed varieties, hinders the transition toward more resilient agroecological systems. This problematic situation unfolds within a socio-economic context characterized by a highly centralized market where intermediaries dictate conditions, and by structural gender gaps that limit the economic autonomy and decision-making power of rural women.

54. Ultimately, the problem is synthesized in a growing gap between current practices and the adaptive capacity required for the future. Production instability not only compromises the income and permanence of family farmers in rural areas but also threatens the nutritional security of a country where vegetable consumption is already significantly lower than recommended. Without a transformation that integrates sustainable soil management, water efficiency, the recovery of local biodiversity, and the reduction of social inequalities, the Uruguayan horticultural sector risks losing its economic viability and its strategic role as a provider of safe and accessible food.

Project / Programme Objectives:

55. The objective of the project is to increase the climate resilience of family horticultural production systems in Uruguay through an integrated adaptation strategy that simultaneously addresses farm redesign, access to and management of water, and market access and commercialization, in order to avoid fragmented responses and strengthen the long-term sustainability of family farming.

56. This objective will be achieved through:

i. Strengthening the adaptive capacity of horticultural production systems by promoting agroecological farm redesign and the adoption of practices that improve soil health, water-use efficiency, and sustainable pest management.

ii. Improving access to water, water-use efficiency, and water quality through technical, organizational, and governance solutions that help ensure year-round water availability, both at farm level and through collective arrangements.

iii. Enhancing market access and the recognition of sustainable practices by supporting certification processes, commercial differentiation, and greater recognition of horticultural products obtained through sustainable production approaches.

57. The central contribution of the project lies in articulating, adapting, and scaling validated solutions so that they can operate systemically within family horticulture. To this end, the project is based on integrated technical assistance that will connect the three components and work with farmers through a co-innovation approach, strengthening both the adoption of practices and solutions at farm level and the institutional capacities required to sustain and scale adaptation processes in family horticulture. In this context, the proposal also includes the adjustment and broader use of technologies developed or adapted in the country, as well as the provision of practical tools to farmers to strengthen on-farm water and production management, in complement to technical assistance.

58. As a result, the project will reduce the vulnerability of family horticultural production systems to climate variability and extreme events, including droughts, excess rainfall, hail, frosts, and the growing incidence

of climate-related pests and diseases. It will strengthen water management at farm and collective levels, improve the stability of production and incomes, and enhance market opportunities for family farmers. In doing so, the project will contribute to the country's food security through a more stable supply of horticultural products, while also supporting rural development by strengthening productive capacities and the long-term resilience of family farming.

Project / Programme Components and Financing:

Project/Programme Components	Expected Outcomes	Expected Outputs	Amount (US$)
1. Strengthening the adaptive capacity of family horticultural production systems.	1.1. Agroecological transitions promoted to strengthen soil health, water-use efficiency, and sustainable pest management.	1.1.1. Thirty-five technicians trained to provide integrated technical assistance for the implementation of the project's different intervention lines. 1.1.2. Horticultural farms redesigned and agroecological management practices adopted. 1.1.3. Regional Pest Management Plan scaled up nationally.	2,791,360
	1.2. Local capacities for the reproduction and availability of adapted seed varieties strengthened.	1.2.1. At least two group initiatives supported through technical assistance for the reproduction and distribution of adapted seeds.	38,592
	1.3. Economic and financial management capacities of family horticultural producers strengthened, with a particular focus on climate insurance management.	1.3.1. Producers trained in economic and financial planning and in the use of climate risk management tools, including DIGEGRA's climate index insurance.	25,000
	1.4. Knowledge products developed and disseminated to expand the reach of project capacities and support their replication across the horticultural sector.	1.4.1. Practices and experiences developed through the project documented and disseminated through audiovisual and editorial materials.	112,242
2. Improving access to water, water-use efficiency and water quality.	2.1. The number of family horticultural producers with safe and sustainable access to water increased.	2.1.1. At least one collective water access infrastructure strengthened.	500,000
		2.1.2. On-farm rainwater harvesting, storage, and use systems implemented	291,000

		through hydrosilos and/or the rehabilitation of existing cisterns.	
	2.2. Water-use efficiency and water quality improved.	2.2.1. Practices, inputs and technologies adopted, through integrated technical assistance, to improve water-use efficiency and water quality at farm level.	No additional cost (covered under Output 1.1.1.)
		2.2.2. Soil moisture monitoring instruments (tensiometers) delivered to producers.	75,000
3. Improving market access and the recognition of sustainable practices.	3.1. Commercial differentiation of products strengthened through the certification of sustainable practices.	3.1.1. Family horticultural producers supported through technical assistance to obtain certifications currently available in the country.	No additional cost (covered under Output 1.1.1.)
	3.2. Market access and commercialization conditions for family horticultural producers improved.	3.2.1. Conditions created within the Metropolitan Agrifood Unit (UAM) to improve the visibility and commercialization of certified products.	No additional cost
		3.2.2. An application developed to identify and georeference certified producers, local fairs, and other short marketing circuits.	100,000
		3.2.3. Producers supported in registering in Uruguay's State Supplier Registry (RUPE), enabling their participation in public purchasing, and in the Rural Women's Work label (MURU), intended for women farmers.	No additional cost (covered under Output 1.1.1.)
	3.3. Consumer recognition of the value of certified horticultural products strengthened.	3.3.1. A national communication campaign designed and implemented to promote the consumption of certified horticultural products and disseminate the developed application.	286,806
4. Project/Programme Execution cost			4,220,000
5. Project/Programme Cycle Management Fee charged by the Executing Entity			390,000
6. Total Project/Programme Cost			4,610,000
7. Project/Programme Cycle Management Fee charged by the Implementing Entity			390,000
Amount of Financing Requested			**5,000,000**

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	01/09/2028
Mid-term Review (if planned)	01/03/2030
Project/Programme Closing	01/09/2031
Terminal Evaluation	15/05/2032

59. The expected timeframe is a maximum of 3 years to carry out all the objectives. An indicative work plan is presented below to be refined during the Project Formulation phase. It outlines the sequencing of the main activities under each component, throughout the implementation period.

Table 2. Projected Calendar

Project/Programme Components	Expected Outcomes	Expected Outputs	Sem 1	Sem 2	Sem 3	Sem 4	Sem 5	Sem 6
1. Strengthening the adaptive capacity of family horticultural production systems	1.1. Agroecological transitions promoted to strengthen soil health, water-use efficiency, and sustainable pest management.	1.1.1. Thirty-five technicians trained to provide integrated technical assistance for the implementation of the project's different intervention lines.						
		1.1.2. Horticultural farms redesigned and agroecological management practices adopted.						
		1.1.3. Regional Pest Management Plan scaled up to the national level, with implementation on selected farms.						
	1.2. Local capacities for the reproduction and availability of adapted seed varieties strengthened.	1.2.1. At least two group initiatives supported through technical assistance for the reproduction and distribution of adapted seeds.						
	1.3. Economic and financial management capacities of family horticultural producers strengthened, with a particular focus on climate insurance management.	1.3.1. Producers trained in economic and financial planning and in the use of climate risk management tools, including DIGEGRA's climate index insurance.						
	1.4. Knowledge products developed and disseminated to expand the reach of project capacities and support their replication across the horticultural sector.	1.4.1. Practices and experiences developed through the project documented and disseminated through audiovisual and editorial materials.						
2. Improving access to water, water-use efficiency and water quality	2.1. The number of family horticultural producers with safe and sustainable access to water increased.	2.1.1. At least one collective water access infrastructure strengthened.						
		2.1.2. On-farm rainwater harvesting, storage, and use systems implemented through hydrosilos and/or the rehabilitation of existing cisterns.						
	2.2. Water-use efficiency and water quality improved.	2.2.1. Practices, inputs and technologies adopted, through integrated technical assistance, to improve water-use efficiency and water quality at farm level.						
		2.2.2. Soil moisture monitoring instruments (tensiometers) delivered to producers.						
3. Improving market access and the recognition of sustainable practices	3.1. Commercial differentiation of products strengthened through the certification of sustainable practices.	3.1.1. Family horticultural producers supported through technical assistance to obtain certifications currently available in the country.						
	3.2. Market access and commercialization conditions for family horticultural producers improved.	3.2.1. Conditions created within the Metropolitan Agrifood Unit (UAM) to improve the visibility and commercialization of certified products.						
		3.2.2. An application developed to identify and georeference certified producers, local fairs, and other short marketing circuits.						
		3.2.3. Producers supported in registering in Uruguay's State Supplier Registry (RUPE), enabling their participation in public purchasing.						
	3.3. Consumer recognition of the value of certified horticultural products strengthened.	3.3.1. A national communication campaign designed and implemented to promote the consumption of certified horticultural products and disseminate the developed application.						

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project / programme components, particularly focusing on the concrete adaptation activities, how these activities would contribute to climate resilience.

Component 1. Strengthening the adaptive capacity of family horticultural production systems

60. Component 1 will focus on strengthening the adaptive capacity of family horticultural production systems by improving on-farm production practices through sustained technical support. It is based on the premise that adaptation cannot rely only on isolated solutions, but requires a gradual transformation of production systems, management practices, and the technical and economic capacities of producers.

61. In this context, the component will promote agroecological transitions aimed at improving soil health, increasing water retention capacity, and strengthening sustainable pest and disease management through biological inputs and agroecological practices. It will also expand access to seeds from varieties better adapted to changing climatic conditions, strengthen the economic and financial capacities of producers to manage investments and climate risk management tools, and systematize and disseminate lessons learned for scaling up across the horticultural sector.

62. These actions will contribute to climate resilience in the face of increasing droughts, heatwaves, and the growing pressure of pests and diseases associated with climate change. Soils with better structure and higher organic matter content are better able to retain moisture and buffer water deficits; more diverse and biologically regulated production systems are less vulnerable to new pests and diseases; and stronger economic planning and risk management capacities improve the ability of producers to sustain adaptation investments under growing climatic uncertainty.

Objective 1.1. - Promote agroecological transitions to strengthen soil health, water-use efficiency, and sustainable pest and disease management at farm level.

63. As a cross-cutting basis for all three project components, the project will launch a call for 35 technicians, who will be trained to work with family farmers across the different lines of intervention of the project. The training will aim to build a technical team capable of supporting farm redesign processes through a co-innovation approach, incorporating agroecological practices and adaptation measures tailored to the productive and territorial conditions of each case.

64. This training process will be led by an Academic Committee composed of the Faculty of Agronomy of the University of the Republic (FAGRO), the National Institute for Agricultural Research (INIA), and the General Directorate of the Farm of the Ministry of Livestock, Agriculture and Fisheries (DIGEGRA-MGAP). The committee will be responsible for developing the training contents, defining common methodological guidelines, and establishing technical criteria for field implementation.

65. In parallel, during the first year the project will select 400 beneficiary farming units through an open national call. Selection criteria will ensure that the project remains focused on family horticultural producers and will include: registration as a family farmer, horticulture as the main production activity, the

productive unit as the household's main source of income, no more than 100 hectares, and no permanent salaried workers, among other characteristics.

66. From the second year onwards, direct technical assistance will be rolled out through an intensive field-based strategy, reaching 400 farming units over two consecutive years. Support will be organized in groups of approximately 12 farming units per technician and will cover diagnosis, farm redesign, implementation support, follow-up, and reporting. A gender perspective will be incorporated into this technical assistance process, recognizing that women already play an important role in sustainable practices and agroecological transitions. As noted above, evidence from agroecological production in Uruguay shows that women's participation is comparatively stronger in this segment: women represent 42% of land owners or co-owners in certified agroecological farms, compared to 24% at national level, and 53% of the members of the Uruguay Agroecology Network are women (Gómez Perazzoli et al., 2024). In this way, the project will seek to strengthen women's participation in farm management and technical decision-making.

67. Through this support, the project will promote agroecological transition processes to strengthen the resilience of production systems. During the first months of work on each farm, a comprehensive diagnosis will identify climate vulnerabilities, production constraints, and opportunities for improvement, forming the basis for a farm redesign proposal and its gradual implementation. This redesign will incorporate practices to improve soil cover and structure, increase organic matter, enhance water infiltration and retention, improve water-use efficiency, and strengthen pest and disease management through biological inputs and agroecological practices. These measures will reduce dependence on agrochemicals, increase the capacity of farms to respond to growing sanitary pressures under climate change, and align with Uruguay's government promoted "One Health" approach by promoting healthier interactions between soils, crops, ecosystems, and people.

68. This objective will also enable the scaling up, at national level and through implementation in selected farms, of the approach developed under the FPTA 383 Regional Horticultural Management Program launched in 2023 by DIGEGRA, in coordination with INIA, and with technical support from the Faculty of Agronomy. This initiative seeks to integrate biological and cultural tools for pest and disease control in horticultural production, reduce agrochemical use, and strengthen technical support to producers. The project will make it possible to expand this approach territorially, consolidate its implementation at national scale, and contribute to its institutionalization as a public adaptation policy for the horticultural sector.

Objective 1.2. - Strengthen the local production and availability of seeds from genetic varieties adapted to climate change.

69. Uruguay has already developed, through INIA and the Faculty of Agronomy of UdelaR, genetic materials that are better suited to emerging climatic conditions. However, significant constraints remain in the capacity to multiply these materials and in the availability of seed, limiting effective access for horticultural producers across the country.

70. To address this bottleneck, the project will support at least two organizations or cooperatives engaged in seed multiplication, with the aim of strengthening their technical and productive capacities. This support will be provided through fortnightly technical assistance over the three years of project implementation, focusing on improving multiplication processes, work organization, and the conditions required to expand the availability of adapted seed in the national market. This objective will also contribute to the project's gender perspective, as women already play a relevant role in seed conservation and management.

Support for local seed multiplication may therefore help strengthen and make more visible women's participation in production systems and in the preservation of locally adapted genetic resources.

71. Strengthening the local availability of adapted seeds is a key adaptation measure, as it improves timely access to planting material suited to new conditions of temperature, water stress, and sanitary pressure, reduces dependence on external supply channels, and enhances the sector's recovery capacity after adverse climate events. It also contributes to greater autonomy of the national horticultural system and to the long-term sustainability of productive adaptation strategies.

Objective 1.3. - Strengthen the economic and financial management capacities of family horticultural farmers, with a particular focus on climate index insurance.

72. Climate change adaptation usually requires investment in infrastructure and technologies. However, many small-scale family producers face difficulties in accessing credit or do not incorporate this type of tool into their planning, partly because of the high uncertainty surrounding their future production and income. This uncertainty becomes even greater in a context of increasing climate variability, where droughts, heatwaves, and the incidence of pests and diseases can severely affect yields and the economic stability of farms.

73. In response, the project will develop specific training activities to strengthen producers' economic and financial management capacities, enabling them to integrate credit into their production and adaptation strategies. The aim is for producers to incorporate financing tools as part of a more structured economic planning approach that supports investments to improve the resilience of their production systems.

74. These training activities will also be aimed at promoting the use of risk transfer tools, in particular the climate index insurance schemes currently available through DIGEGRA-MGAP, as part of farm-level economic planning. In order to facilitate women's participation and help reduce gender gaps, the budget allocated to this activity will include eligible costs associated with transportation and care arrangements. This will contribute to climate resilience by reducing producers' financial exposure to losses associated with extreme events and strengthening their room for maneuver under conditions of greater uncertainty.

Objective 1.4. - Develop and disseminate audiovisual and editorial materials to document adaptation practices, lessons learned, and experiences, in order to broaden the reach of the capacities promoted by the project and support their replication across the horticultural sector.

75. Throughout project implementation, audiovisual and editorial materials will be produced to document the practices promoted, processes of change, lessons learned, and the experiences of participating farmers. These materials will serve not only a communication function, but also a knowledge systematization and scaling-up function.

76. Their production will help translate technical, productive, and organizational learning into accessible formats for other farmers, technicians, and sector institutions, encouraging peer-to-peer learning and extending the project's reach beyond its direct beneficiaries. In this way, the component will combine intensive farm-level support with a broader sector-wide dissemination strategy, contributing to the uptake, replication, and sustainability of adaptation practices and tools in other contexts.

Component 2. Strengthening water access and improving water-use efficiency in family horticulture

77. Component 2 will focus on strengthening the adaptive capacity of family horticultural systems by improving safe and sustainable access to water, while promoting more efficient water use at farm level. It responds to the growing water access constraints affecting family horticulture in southern Uruguay in a context of increasing climate variability and recurring water deficits. Recent official monitoring shows a sustained decline in static water levels in the Raigón Aquifer since the onset of the 2021 drought cycle, affecting the availability of groundwater for domestic and productive uses (Sistema Nacional de Emergencias, 2026), while previous studies in rural Montevideo identified water quality constraints, including salinity risks in deep groundwater used for irrigation (Montevideo Rural, 2013).

78. Although existing public instruments have advanced support for water access and management, they remain focused mainly on farm-level solutions based on groundwater use. In this context, the project will complement these interventions by supporting collective water access solutions where individual responses are insufficient, promoting greenhouse-linked rainwater harvesting systems, and introducing irrigation planning and decision-support tools aimed at improving water-use efficiency.

79. These actions will contribute to climate resilience by reducing exposure to seasonal and interannual water scarcity, improving water use efficiency, and strengthening producers' capacity to maintain production under drought and heat stress conditions.

Objective 2.1. - Increase the number of family horticultural producers with safe and sustainable year-round access to water.

80. A first line of work under this objective will focus on strengthening at least one existing collective water access infrastructure in the southern region of the country, where water demand is higher and water availability constraints are more critical. This responds to explicit demands raised both by producer representatives in the "Junta Nacional de la Granja" and by producers participating in the consultation workshops held to design the present project, where it was emphasized that responses can no longer continue to rely primarily on wells, but need to move toward multi-farm strategies, since on-farm solutions are not adequately meeting irrigation needs.

81. Uruguay already has several collective water access experiences, based either on intake from surface watercourses or on large storage reservoirs. These experiences combined public water capture and distribution works with collective management arrangements, but have followed heterogeneous trajectories and, in several cases, have faced organizational, economic, and institutional difficulties in remaining sustainable over time.

82. The specific experience or experiences to be supported will be defined during the Project Formulation phase, through a diagnosis of the main territorial bottlenecks and opportunities. On that basis, the project will design a support plan integrating both a technical dimension and a social and organizational dimension. The aim is not only to improve the functioning of the selected infrastructure, but also to strengthen the collective management and governance arrangements needed to sustain it over time. In this sense, the project will support an existing experience as a pilot case, generating practical lessons and an operational model that may be replicated in other areas facing similar constraints.

83. A second line of work will operate at farm level. Through the same technical assistance strategy described under Component 1, the project will support beneficiary producers in the design and implementation of on-farm rainwater harvesting, storage, and use systems. These systems will be connected to greenhouse roofs through gutters and will include the provision of hydrosilos and the rehabilitation of existing cisterns, enabling producers to capture and store rainwater for later productive use. This constitutes an important innovation in the national context, as it introduces a relatively low-cost alternative to strengthen water security in greenhouse horticulture while reducing pressure on groundwater sources.

Objective 2.2 - Improve water-use efficiency and water quality management in family horticultural production systems.

84. This objective will be pursued through two complementary strategies. First, the direct technical assistance provided to beneficiary producers will also include irrigation planning and the promotion of farm-specific practices to improve water efficiency and water quality management. Based on the initial diagnosis carried out in each farm, producers will be supported in adopting measures such as drip irrigation, the use of white shading nets, mulch, hydrogel combined with compost incorporation, flushing with fresh water, acid injection, and the installation of descaling equipment, depending on the main constraints identified. In this way, irrigation management will not be treated as an isolated technical adjustment, but as part of a broader redesign process aimed at improving the performance and resilience of the production system under more variable climatic conditions.

85. Second, the project will promote the use of digital tools for better irrigation decisions. In particular, it will support the adoption of FertiRIEGO Horticultura, a decision-support application developed by INIA for tomato crops, which plans fertigation using climatic information and assists producers in daily irrigation and fertilization decisions in real time. According to INIA, the tool is designed for practical use at farm level and contributes to maximizing water-use efficiency. The project will build on this existing tool and, through an experimental design to be developed during the Project Formulation phase, validate and adapt its use for pepper, a crop of increasing relevance in greenhouse horticulture.

86. In addition, each beneficiary producer will receive a soil moisture sensor to improve real-time decision-making on irrigation frequency and timing. Combined with technical assistance and digital planning tools, these sensors will help producers move from reactive irrigation practices toward more precise and climate-informed water management. Altogether, these measures will increase the productivity of each unit of water used, improve the quality of water management at farm level, and strengthen the ability of producers to cope with droughts, heatwaves, and growing pressure on available water resources.

Component 3. Improving market access and the recognition of sustainable practices.

87. Component 3 will aim to improve market access conditions for family horticultural farmers and to enhance the recognition of products obtained through the sustainable practices promoted by the project. It is based on the premise that climate adaptation depends not only on the adoption of new practices, technologies, or infrastructure, but also on the existence of market conditions that allow producers to sustain those changes over time.

88. Since the project's beneficiaries will be family producers who depend on horticultural production as their main source of income, their ability to place and commercialize their products is essential to the long-term viability of the adaptation strategies promoted by the project. In many cases, the adoption of

agroecological or more sustainable practices may require changes in work organization, additional monitoring efforts, and greater time investment, especially in the initial stages. For these transitions to be viable, they must be accompanied by stronger market recognition and more favorable conditions for commercialization.

89. In this context, the component does not seek to promote product differentiation through higher prices, as the project also aims to contribute to national food security and to ensure that the whole population can access these products. Rather, it will strengthen commercial differentiation mechanisms that enable consumers to identify certified family horticultural products and choose them on the basis of their environmental and social value, as well as their contribution to sustainable production and rural development.

90. From a resilience perspective, this component will help reduce the economic vulnerability of family producers and support the consolidation of the production transitions promoted by the project. By strengthening the link between sustainable production, market recognition, and consumer demand, it will create more favorable conditions for these practices to be maintained and expanded over time.

Objective 3.1. - Strengthen the commercial differentiation of family horticultural products through the certification of sustainable practices.

91. The project will promote the certification of beneficiary farmers' output through labels that are already established and operational in Uruguay, with the aim of improving the identification and market positioning of products obtained through sustainable practices. To this end, the technical team trained under the project will provide tailored support to producers throughout the two-year technical assistance period, enabling them to navigate the certification process and meet its requirements.

92. The labels to be promoted will include, among others, the Integrated Production label, currently implemented through the Regional Pest Management Plan that the project seeks to scale up, as well as the Transition Production and Agroecological Production labels developed by the Uruguayan Agroecology Network and monitored by the Ministry of Livestock, Agriculture and Fisheries. Rather than creating new certification instruments, the project will build on and expand the use of existing and recognized schemes, thereby facilitating their scaling-up and strengthening their integration into current marketing channels.

93. Certification will provide greater visibility and traceability to products obtained through sustainable practices, supporting their recognition in the market and creating more favorable conditions for commercial differentiation.

Objective 3.2. - Improve market access and commercialization conditions for family horticultural farmers.

94. This objective will seek to create more favorable conditions for the commercialization of certified products and to expand market access opportunities for family producers across different sales channels. To this end, the project will work in coordination with the Metropolitan Agri-Food Unit (UAM) to promote conditions that improve the visibility and commercialization of these products within the country's main wholesale market. Among other actions, the project will explore the creation of specific spaces or differentiated mechanisms that make it possible to identify and position certified products vis-à-vis wholesale buyers and other commercial actors.

95. In addition, through technical assistance, the project will support producers in registering with the State Supplier Registry (RUPE), thereby enabling their participation in public procurement schemes. It will also support eligible women producers in applying for the MURU – Rural Women's Work label, a voluntary MGAP-owned mark managed through the Directorate-General for Rural Development (DGDR) that identifies and adds value to products and services developed by rural women in Uruguay. This will help expand the commercialization channels available to family horticultural production, strengthen farmers' linkages with institutional markets that may offer more stable demand, and promote the visibility and market recognition of products developed by rural women.

96. The project will also develop an application designed to identify and georeference certified producers, local fairs, and other short marketing circuits, in order to strengthen these channels as an additional commercialization pathway for family horticultural farmers. This tool will help connect the supply of certified products with final demand, strengthen the link between farmers and consumers, and improve the territorial visibility of commercial circuits associated with sustainable production. By facilitating more direct commercialization channels, it may also help reduce intermediation, allowing producers to retain a greater share of the final value of their products. In addition, by promoting shorter distribution routes, it may contribute to reducing transport needs and fuel use, thereby generating additional environmental co-benefits.

Objective 3.3. - Strengthen consumer recognition of the value of certified horticultural products.

97. The project will design and implement a national communication campaign aimed at promoting the consumption of certified horticultural products, strengthening public recognition of the labels, and disseminating the application developed under this component. The campaign will seek to position these products in consumers' awareness not only in terms of quality, but also in relation to their contribution to environmental care, the sustainability of production systems, and rural development. It will also seek to make women's contributions to sustainable horticultural production more visible, as part of a broader effort to strengthen the social recognition of women's work and contributions in rural society.

98. The campaign will complement the certification and commercialization actions supported under this component by helping consumers recognize the labels, understand their meaning, and use the application to identify where certified products can be purchased. In this way, it will strengthen the demand-side conditions needed for certified products to gain visibility and traction in the domestic market.

99. From an adaptation perspective, strengthening consumer recognition is important for consolidating the economic sustainability of the practices promoted by the project. To the extent that more sustainable production systems are also socially recognized and commercially demanded, farmers will be in a stronger position to maintain and deepen their adaptation strategies over the medium and long term.

B. Describe how the project /programme would promote new and innovative solutions to climate change adaptation, such as new approaches, technologies, and mechanisms.

100. The innovation of the project does not lie in any single technology taken in isolation, but in the integration of technological, organizational, institutional and market innovations into a delivery model specifically tailored to the constraints of family horticulture in Uruguay. The project combines farm redesign based on agroecological principles, collective and on-farm water solutions, adapted seed multiplication, climate-

informed irrigation tools, certification pathways, and market-enabling actions in order to overcome persistent barriers that have prevented adaptation solutions from being adopted at scale.

101. In this sense, the proposal responds to the Adaptation Fund's innovation rationale by addressing a clearly defined climate vulnerability problem through an innovative process. The climate problem is not only the growing exposure of family horticulture to droughts, heat stress, pests, and water quality constraints, but also the fact that viable adaptation responses remain fragmented, under-adopted, and difficult to sustain economically. The project therefore promotes innovation as a systemic response that enables vulnerable producers to adopt, test, adapt and sustain climate-resilient practices in a coordinated way, rather than through isolated measures.

102. More specifically, the project addresses four interrelated barriers that currently prevent scaling adaptation in family horticulture: (i) adoption barriers, because proven practices and tools have not yet been translated into widespread uptake among family farmers; (ii) coordination barriers, because relevant solutions remain dispersed across research, extension, public programmes and producer organizations; (iii) financing and investment barriers, because family horticulture operates with limited margins and reduced capacity to assume adaptation investments under recurrent climate losses; and (iv) market incentive barriers, because sustainable practices and certifications still face weak recognition and limited commercial traction.

103. The project adopts a co-innovation approach, understood as a social process of learning, experimentation, and change, which will be implemented at two complementary levels:

    i. **Academia–technicians–producers' articulation**, aimed at ensuring that farm-level solutions emerge from a dialogue of knowledge and continuous adjustment processes based on specific productive and climatic conditions. In this way, technical assistance, the core of Component 1, moves beyond a vertical technology transfer approach, promoting instead the co-design of adaptation strategies.

    ii. **Institutional articulation**, through the establishment of an Academic Committee that will integrate knowledge-generation capacities (FAGRO–INIA) with public policy implementation institutions (DIGEGRA–MGAP), ensuring technical coherence, alignment with national priorities, and the potential institutionalization of the solutions developed.

104. Within this framework, the Academic Committee will play a key role in developing technical content related to agroecological transition processes, as well as in training and harmonizing the capacities of field technicians, ensuring a consistent and integrated approach to adaptation processes.

105. This co-innovation approach is not new in Uruguay, as it builds on concrete national experiences. A clear example is the FPTA 383 Regional Horticultural Management Program, implemented by DIGEGRA and the General Directorate of Agricultural Services (DGSA) of MGAP, which has been explicitly developed under a co-innovation framework. The program promotes the integration of biological and cultural tools to reduce the use of agrochemicals, improve the efficiency of pest and disease management, enhance product quality, and decrease adverse environmental impacts. While it has yielded positive results, its implementation has remained limited in scale: according to the Faculty of Agronomy (n.d.), it has reached 180 horticultural producers nationwide, of which only 12 have achieved certification under integrated production scheme.

106. With respect to the technologies promoted by the project, these are already available in the country, both locally developed and of foreign origin, but face an important adoption gap among family horticultural producers. The project's innovation lies in facilitating their access, adaptation, and integration into real

production systems, combining the provision of inputs, intensive technical assistance, and capacity building.

107. In particular, the project will integrate and scale up a set of complementary technologies and practices:

- **Farm redesign based on agroecological principles**: integrated incorporation of practices such as soil cover, increased organic matter, biological pest and disease management, and the use of inputs such as mulch. The innovation lies in promoting these practices not in isolation, but as part of comprehensive farm redesign processes tailored to each context and supported by continuous technical assistance.

- **Technologies for efficient water management and water quality**: promotion of drip irrigation, white shading nets, the use of hydrogel combined with compost, and water quality management practices such as salt leaching, acid injection, and descaling equipment. Their innovative character lies in their integration into climate-informed farm management strategies, aimed at maximizing efficiency under increasing water scarcity.

- **Rainwater harvesting and storage systems**: installation of systems to collect water from greenhouse roofs, including storage in hydrosilos or rehabilitated cisterns. This represents a relatively low-cost solution, still not widely adopted at national level, to strengthen water security and reduce pressure on groundwater sources.

- **Collective water access solutions**: strengthening existing shared water infrastructure by combining technical improvements with enhanced management and governance models. The innovation lies in addressing water access not only as a technical challenge, but also as an organizational one.

- **Climate-adapted seeds**: strengthening local organizations for the multiplication of genetic materials developed by INIA and FAGRO. The innovation consists in overcoming existing bottlenecks in seed reproduction by working with producer organizations, thereby improving availability and access.

- **Digital tools and real-time monitoring**: promotion of the FertiRIEGO application (developed by INIA) and its validation for new crops such as bell pepper, combined with the provision of soil moisture sensors at farm level. This will enable more precise irrigation and fertilization management based on real-time soil and climate data.

108. Without sustained technical support, these technological solutions would not achieve the same levels of adoption. Therefore, Component 1 is both fundamental and cross-cutting to the entire project, as it underpins the effective implementation of all other components.

C. Describe how the project/programme aims to roll out successful innovative adaptation practices, tools, and technologies and/or describe how the project aims to scale up viable innovative adaptation practices, tools, and technologies.

109. The project builds on adaptation practices, tools and mechanisms that are already at different stages of development in Uruguay's horticultural sector: some have been tested in pilot settings, some are operational but remain limited in scale, and others are available but face persistent adoption barriers among family farmers. The role of the project is to alter this innovation process by creating the institutional, technical, organizational and market conditions required to move these solutions from fragmented use to wider deployment and uptake.

110. *The project combines piloting, scale-up, and replication pathways in order to accelerate the uptake of* viable adaptation innovations in family horticulture.

111. **Piloting**. The project will pilot and refine a set of adaptation solutions under real production conditions. This includes the strengthening of at least one existing collective water access system as a pilot case for improving both infrastructure performance and governance arrangements; the implementation of greenhouse-linked rainwater harvesting and storage systems at farm level; and the validation and adaptation of the FertiRIEGO tool for pepper, expanding its use beyond tomato. In each of these cases, the project will not only support implementation, but also document the practical, organizational and technical lessons needed for broader uptake.

112. **Scale-up**. The project will scale up adaptation practices and tools that have already demonstrated viability at a smaller scale in Uruguay but remain limited in reach. This applies particularly to the co-innovation-based technical assistance model, the agroecological farm redesign approach, and the Regional Pest Management Programme developed under FPTA 383. The project will expand these approaches to 400 family horticultural production units and will strengthen the institutional conditions for their continuation through the Academic Committee, the training of 35 technicians, and the transfer of methodologies and tools to MGAP systems.

113. **Replication**. Beyond direct implementation, the project is designed to generate evidence, learning products, and operational models that can be replicated in other territories and by other institutions. This includes technical protocols, training materials, audiovisual and editorial products, practical learning from the collective water access pilot, and the dissemination of farm-level adaptation experiences through institutional and producer networks. In this way, the project will contribute not only to direct uptake, but also to the wider diffusion of adaptation practices, tools and organizational models that can support replication in the horticultural sector.

114. Beyond deployment and replication, the project also addresses the conditions required for these innovations to remain viable after the project period.

115. **Enabling conditions for sustained scale-up.** To ensure that piloted and scaled solutions remain viable over time, the project also strengthens the enabling conditions required for sustained uptake. These include institutional capacity-building through the Academic Committee and the training of technicians; improved farm-level economic and financial management to support adaptation investments; market-enabling actions that improve the commercial viability of sustainable practices; and dissemination mechanisms that extend project learning beyond direct beneficiaries. These enabling conditions are elaborated in section M of this note.

D. Describe how the project / programme would provide economic, social, and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme would avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

116. **Economic Benefits:** Many of the proposed technologies and tools in the project have a direct positive impact on the sector's productivity. The economic benefits associated with these activities include increased crop yields, cost reduction, improved market access, enhanced product valuation, and better access to infrastructure. These measures aim to decrease the impact of extreme weather events, particularly water deficits, which have historically caused significant losses.

117. Regarding water management at the farm level, the project will promote the adoption of practices, inputs, and technologies to improve water use efficiency and resource quality through technical assistance. This includes the adaptation and validation of irrigation management tools, such as INIA's FertiRIEGO application, and the provision of monitoring instruments to support more efficient water use decisions. While there are no specific estimates for Uruguay, the report "Accelerating the Digital Water Utility" (Global Water Intelligence, 2019) suggests that the return on investment for automating irrigation can reach up to 14%. These measures are expected to reduce production costs by optimizing water use and associated energy consumption.

118. In terms of water access, the project will support the implementation of on-farm systems for rainwater harvesting, storage, and use, including the incorporation of hydrosilos and the rehabilitation of existing infrastructure such as cisterns. In addition, it will strengthen collective water access systems through technical and management support. These interventions aim to ensure more reliable water availability throughout the year, reducing vulnerability to water scarcity and contributing to more stable and cost-efficient production systems.

119. The combination of higher yields (supported by market expansion efforts to stabilize selling prices) and lower operational costs will directly improve the profitability of horticultural establishments. To further support farm autonomy, the project will provide hydrosilos and soil moisture sensors.

120. Addressing risk and financial management, producers will receive training in economic-financial planning and education on tools to mitigate climate risks. A key component is the promotion of index-based climate insurance, which allows farmers to base their planting decisions on risk coverage rather than just market fluctuations.

121. Another significant advantage is that these solutions enable access to demanding markets that value efficient resource use and reduced chemical inputs. By meeting these standards, products can differentiate themselves and secure better prices. To support this, the project will strengthen the Integrated Production seal (including a distinctive badge for responsible water use) and the MURU seal for women-led products. Financing will also be provided to improve the design and printing of packaging for certified products, alongside a national communication campaign to promote their consumption.

122. Finally, regarding commercialization, the project will focus on improving market access and the positioning of certified horticultural products. It will support family farmers by strengthening their presence in commercialization spaces such as the Metropolitan Agri-Food Unit (UAM), promoting short supply chains, and facilitating their participation in public procurement systems through registration in the RUPE. In parallel, digital tools will be developed to georeference certified producers and local markets, enhancing their visibility and market integration.

123. **Social Benefits:** The implementation of improved water management practices at the farm level (such as irrigation planning, drip irrigation, and the use of monitoring tools) contributes to reducing health risks associated with water quality and inefficient use, while supporting more stable and resilient production systems. In parallel, the promotion of agroecological transitions, including soil health management, sustainable pest control, and the incorporation of adapted varieties, reduces dependence on external inputs and exposure to agrochemicals, contributing to safer working conditions for producers. Framed within a One Health approach, these interventions link environmental quality, production practices, and human health in the redesign of horticultural systems.

124. Education is an important pillar of the project. 35 technicians will support 400 producers in participatory processes of farm diagnosis, redesign, and implementation of agroecological practices. This process

fosters collective learning and enables the integration of different types of knowledge into decision-making. Training will also strengthen producers' capacities in economic and financial planning, including the use of climate risk management tools such as index-based insurance. This contributes to greater autonomy and more informed decision-making under conditions of uncertainty.

125. Training activities will include dedicated support for women's participation, including transportation assistance and the provision of childcare spaces during training sessions. In parallel, the project will promote the MURÚ seal as part of its market access and value enhancement component.

126. At the collective level, the project promotes associative approaches to resource management and production. This includes support for group-based initiatives for the reproduction, multiplication, and conservation of locally adapted seeds, strengthening local capacities and contributing to greater sovereignty over genetic resources. In parallel, actions to improve access to water, such as the strengthening of collective infrastructure and the implementation of on-farm rainwater harvesting and storage systems, reinforce both individual and community resilience.

127. **Environmental Benefits:** One of the project's primary environmental benefits is the improvement of soil health through agroecological co-design. This approach focuses on redesigning farms as agroecosystems to enhance both biological diversity and water retention. Promoted practices include the use of cover crops and green manures, crop rotations, and the application of bio-inputs that support soil microorganisms without harming the delicate balance of the underground ecosystem.

128. The project significantly enhances water efficiency by implementing smart irrigation systems, which contribute to the conservation of both water quantity and quality. Precise irrigation helps maintain optimal nutrient levels in the soil and reduces excess moisture, which in turn decreases the occurrence of pests and the subsequent need for pesticides. By maximizing the efficiency of existing resources (through technologies such as rainwater harvesting and water recirculation in greenhouses) the project reduces pressure on water resources and limits the need for additional extraction.

129. The adoption of adapted varieties and integrated pest management practices drastically reduces dependence on chemical pesticides. This decrease in agrochemical use prevents the release of toxic substances into the environment, protecting soil, water, and air from pollution. By prioritizing integrated pest management, the project preserves the quality of agricultural ecosystems and promotes biodiversity conservation, as beneficial organisms and non-target flora and fauna are not negatively affected. These sustainable practices foster a healthier and more resilient balance within horticultural systems.

130. Finally, the project addresses the conservation of species and variety diversity, an essential environmental aspect in the face of current climate challenges. By promoting the use of drought-adapted varieties and training producers in on-farm seed conservation, the project preserves existing biodiversity and counteracts the genetic erosion that threatens the sector. This focus on genetic sovereignty ensures that agricultural systems remain productive and adaptable to increasing water scarcity.

131. **Stakeholder Engagement and Consultation.** The project emphasizes inclusive participation and consultation processes with affected communities and stakeholders at every stage. Environmental and social risks, along with mitigation measures, will be disclosed publicly, ensuring transparency and effective engagement. To ensure adequate engagement throughout the project's development and execution and equal access to the project's opportunities and benefits, the PFG process will involve a full stakeholder mapping and analysis at each level as part of a comprehensive stakeholder engagement plan that defines the roles of each. The PFG phase will incorporate inputs and perspectives from the stakeholder groups identified into the design of the project activities and budget. The requisite

Stakeholder Engagement Plans, Gender Mainstreaming Plans, Grievance Mechanism and budgets will be developed nationally and compliant with national protocols and collated at the regional level.

132. **Monitoring, Reporting, and Grievance Mechanism.** Monitoring and reporting will be integrated into the ESS, Stakeholder Engagement and Gender Plans that will be developed during the Project Formulation stage. Monitoring of these aspects will be integrated into the project review process with logging of reports of impacts and decisions.

133. Complaints and grievances will be handled through CND's Environmental and Social Grievance Mechanism (MRRAS) for projects/programmes financed by the Green Climate Fund and/or the Adaptation Fund (available at https://www.cnd.org.uy/mrras) and will be appropriately disclosed and disseminated to stakeholders in compliance with the Adaptation Fund's Environmental and Social Policy.

E. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme and explain how the regional approach would support cost-effectiveness.

134. A refined analysis of the cost-effectiveness of the proposed project will be undertaken during the full project formulation stage and will be presented in the Full Project Document. At that stage, a cost-effectiveness analysis will accompany each of the intervention lines, examining the alternatives considered, the criteria applied in their selection, and the expected adaptation outcomes per unit of investment. The analysis will also incorporate comparative benchmarks from similar projects in the region as they become available.

135. The preliminary cost-effectiveness assessment presented below is based on the project's current design parameters and budget estimates, and is intended to demonstrate the underlying logic of efficiency that has guided key design decisions.

136. The proposed strategy is based on four main points: a group-based technical assistance model, the implementation of shared collective infrastructure, the generation of durable public goods, and complementarity with existing public financing instruments.

137. The group-based technical assistance model represents the largest single expenditure under the project. Each beneficiary family farming unit will receive two years of technical assistance on a fortnightly basis. Support will be organized in groups of 12 family farming units per technician, with a total of 35 technicians reaching 400 units. Over the two-year period, each technician will complete 312 workdays while accompanying these 12 units, at an estimated cost of USD 268 per workday. This results in a total cost of USD 2,791,360 for the workdays of the 35 technicians, equivalent to an expenditure of approximately USD 6,978 in direct technical assistance per family farming unit. Grouping producers within territorial clusters not only reduces unit delivery costs but also enables peer learning, collective problem-solving, and the gradual consolidation of producer organizations capable of sustaining adaptation practices autonomously after the project concludes.

138. Technical support for at least two collective initiatives for seed reproduction and distribution, with an estimated cost of USD 38,592, can generate a significant multiplier effect: it would increase the availability of locally adapted seeds in the market, reduce dependence on foreign seed companies, potentially lower producers' access costs, and at the same time strengthen the economic viability of these collective initiatives.

139. Additionally, technical assistance for strengthening the economic and financial management of producers (which will have a total cost of USD 25,000) feature a significant cost-effectiveness component. They are designed to improve planning capacity, facilitate reinvestment in productive systems, and increase the sustainability of the investments promoted by the project. Furthermore, the training proposal will be designed and transferred to the MGAP for subsequent reuse and scaling. To facilitate women's participation and help reduce gender gaps, the budget allocated to this activity will also cover eligible transportation and care-related costs.

140. A total of USD 500,000 will be allocated to strengthening existing collective water access infrastructures. This support will address both the physical functioning of the infrastructure and the social and organizational arrangements required for its long-term sustainability. On the one hand, the project will finance improvements to existing water capture, storage, and distribution works. On the other, it will support processes aimed at strengthening collective management, governance, and coordination among users and relevant institutions. In this sense, the project will support an existing experience as a pilot case, generating practical lessons and an operational model that may be replicated in other areas facing similar constraints.

141. Tools to improve water management, such as the provision of water monitoring instruments (USD 75,000), and the implementation of on-farm rainwater harvesting systems (USD 291,000) can help reduce operational costs associated with water use, improve irrigation efficiency, and decrease production losses, thereby reinforcing the profitability of adaptation measures.

142. Regarding the improvement of market integration and commercialization conditions, together with strengthening consumer recognition of certified horticultural products, actions at the Unidad Agroalimentaria Metropolitana (UAM), which require no additional funding, enhance the visibility and commercialization of certified products within an existing platform. This is complemented by a digital application (USD 100,000) to connect certified producers with local markets, and a communication campaign (USD 286,806) to increase consumer awareness and demand. Together, these measures maximize impact by strengthening supply–demand linkages.

F. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist. If applicable, please refer to relevant regional plans and strategies where they exist.

143. Uruguay has demonstrated a strong commitment to integrating climate change and sustainability into public policies. This commitment dates back to 1994, when it ratified the United Nations Framework Convention on Climate Change. Since then, Uruguay has reaffirmed its commitment to other international agreements (such as the Paris Agreement, the Sendai Framework, and various conventions on biodiversity) and the Sustainable Development Goals (SDGs). Additionally, several regulations, documents, and policy systems have been developed at the national and general level. These include the National Plan for Climate Change Response (PNRCC), the National Emergency System (SINAE), the National Climate Change Policy (PNCC), the Gender and Climate Change Strategy, the first, second and third Nationally Determined Contributions (NDC), the Long-Term Climate Strategy (ECLP), the National Water Policy and Plan, the National Sustainable Production and Consumption Action Plan, the National Waste Management Plan (PNGR), the National Strategy on Sustainable Bioeconomy, the

Circular Economy Strategy and the National Strategy on Food Loss and Waste and the National Plan for the Promotion of Agroecological-Based Production.

144. Many of these documents promote concrete adaptation measures to climate change, such as those proposed in this project. For example, the Third Nationally Determined Contribution (NDC3) aims to improve the protection and security of water resources' availability and quality, promote good practices associated with water use, enhance governance in this regard, and advance research and integrated monitoring. Furthermore, adaptation measure 40 states that 'By 2035, promotion and incentive instruments have been designed and implemented so that production establishments implement management measures and technologies that reduce the risk of water deficit'. Likewise, measure 41 defines that 'By 2035, an information platform is available to facilitate access to new knowledge, in accessible and appropriate formats for adaptive agricultural management in the face of climate change and variability'. In addition, measure 45 defines that 'By 2035, sustainable and resilient production in the horticultural sector is promoted synergistically with other policies through the incorporation of agroecological practices' (SNRCC, 2024).

145. Additionally, the project aligns with other more specific documents for the agricultural sector. The National Adaptation Plan to Variability and Climate Change for the Agricultural Sector (PNA-Agro) prioritizes sustainable animal and plant production systems and includes adaptation measures such as: evaluation and promotion of multi-predial irrigation with social and environmental considerations, generation of knowledge and tools to improve the sustainability of irrigated systems, research on plant genetic improvement, design and implementation of an agricultural technology extension and transfer system, development and updating of tools for agro climatic and environmental information monitoring, design and implementation of the drought information system, evaluation of greenhouses for horticultural production, and fruit tree training systems that incorporate climate models, promotion of the adoption of good agricultural practices and integrated pest, disease, and weed management, promotion of access to financing for productive investments and technical assistance for horticultural producers, among others. The PNA-Agro also proposes the implementation of affirmative policies focused on rural women and youth, which involves the design and implementation of calls for initiatives led by rural women and youth, offering economic support and technical assistance for their implementation (MGAP & SNRCC, 2019).

146. Since 2021, the MGAP has been implementing its actions through strategic plans built participatively with organized civil society. These plans serve as long-term public policy instruments. Currently, there are three active plans that engage in mutual dialogue and provide the institutional framework for the initiatives proposed in this project: the National Family Farming Plan, the National Agroecology Plan, and the National Gender Plan for the Agricultural Sector. These plans allow for the structuring of comprehensive interventions that recognize the diversity of actors in the sector, specifically promoting the inclusion of family farmers, the stewardship of natural resources, and the reduction of gender inequalities in rural areas.

147. Additionally, the National Plan for the Promotion of Agroecological-Based Production (PNA) was published.The PNA includes several strategic axes that are particularly relevant to this project, namely: Promotion and Production (through support for agroecological transition in family farming); Access, Distribution and Consumers; Genetic Resources and Varieties; and Training, Research and Extension. Through these axes, the Plan promotes the development of financing lines for infrastructure (such as irrigation systems and greenhouses), encourages both on-farm and collective production of bio-inputs, and supports actions aimed at restoring water cycles and enhancing resilience to climate change. In relation to seeds, it fosters participatory breeding of locally adapted varieties, the establishment of regional centers for storage and distribution, and the protection of the right to the free use, reproduction,

and exchange of native and local seeds. Regarding pest and disease management, the Plan promotes biological control by strengthening research, production capacities, and regulatory frameworks, while also encouraging the reintroduction of beneficial microorganisms to improve soil and crop health. Gender equity is addressed as a cross-cutting axis throughout the Plan. Innovation is framed from a co-innovation perspective, integrating scientific and local knowledge through participatory processes.

148. The 2024-2028 National Plan for Family Farming (PNAF) is closely aligned with this project. This plan, which is implemented in permanent coordination with the PNA through measure 6.6, addresses key themes such as sustainability, the environment, and climate change (Pillar 6); water access via strategic planning and infrastructure (Pillar 7); socioeconomic inclusion and markets (Pillar 5); and gender and youth (Pillars 3 and 2).

149. Within Pillar 6, measure 6.2 focuses on developing differentiated insurance for family farming, while measure 6.6 ensures coordination with the aforementioned Plan for the Promotion of Agroecological-Based Production. Additionally, measure 6.4 involves creating methodological guides for technicians and policymakers to integrate family farming into all sector-wide climate plans. Regarding water resources specifically, measure 6.1 guarantees the inclusion of family farming in a sector-wide water strategy, and measure 7.8 focuses on the design and implementation of adapted infrastructure, such as wells, water harvesting systems, and supplies for both domestic and productive use.

150. In terms of socioeconomic inclusion and markets, measure 5.6 aims to facilitate public procurement through organizational training, while measure 5.7 promotes short marketing circuits. Measure 5.4 refers to the creation of credit lines for sustainable investments, and measure 5.2 focuses on strengthening revolving funds managed by the organizations themselves. Finally, Pillar 3 seeks to promote women's economic autonomy through specific programs and campaigns to challenge cultural stereotypes (3.1 and 3.2).

151. Regarding innovation, the plan includes the perspective of social innovation within the objectives of Pillar 7. In this regard, it refers to specific support systems such as the National System of Innovation and Rural Development (SNIDER) and the introduction of innovative market solutions. Additionally, it seeks to improve the capacity of youth to adopt innovative practices that bridge traditional knowledge with new technological solutions.

152. The National Plan for Gender in Agricultural Policies (PNG Agro), which has been implemented during the 2021-2024 period, is also aligned with the project's gender-related themes. It prioritizes women's leadership in agroecology and the conservation of heirloom seeds, acknowledging their historical role in preserving biodiversity. Furthermore, it drives training in financial management and climate risks to strengthen their economic decision-making capacity. It is also recognized that water crises disproportionately burden women's tasks, making their inclusion in the design of water adaptation technologies and policies essential. Additionally, economic autonomy is promoted through the MURÚ seal, the application of the Public Procurement Law (No. 19.685), and the establishment of a gender perspective as a Country Brand (*Marca País*). Finally, innovation is seen as an opportunity to foster inclusion through training, productive projects, and entrepreneurship.

153. Likewise, the Agricultural Gender Policy, whose action plan covers the 2025–2029 period, prioritizes addressing structural gender gaps in access to productive resources, technical assistance, and decision-making within agro-food systems. It places a strong emphasis on strengthening extension services and building capacities among producers and technical staff. The policy also promotes the integration of a gender perspective into the PNA and broader environmental and climate strategies, including the

adoption of a systemic One Health approach. Additionally, it highlights the importance of enhancing women's economic autonomy through access to knowledge, financial tools, and climate risk management instruments, as well as strengthening local seed systems and collective initiatives. Water access and management are identified as critical dimensions of climate adaptation with differentiated gender impacts, while communication, knowledge production, and innovation are emphasized as key drivers for scaling sustainable practices and fostering cultural change within the agricultural sector.

154. Finally, the One Health approach, increasingly used in the Uruguayan academic sector, is beginning to be incorporated into governmental policy documents and plans. This project is aligned with this collaborative, multidisciplinary, and multisectoral approach, which promotes a systemic and integrative vision of the health of people, other living beings, and the environment in close interconnection. By articulating agroecological practices, sustainable water management, and capacity building, the project concretely integrates the health of productive systems, ecosystems, and people.

G. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

155. The project will comply with Uruguay's national technical standards, as well as the Environmental and Social Policy of the Adaptation Fund.

156. Moreover, the majority of the activities proposed in the project do not pose adverse environmental and social risks and impacts, as they primarily involve technical assistance, training, consulting, knowledge generation and digital tool development, among others, without identifiable physical elements or footprints. However, specific activities may have minimal environmental and social risk or impact due to their minimal and localized intervention on the farm. For example, if new water sources to feed the irrigation systems are not managed properly, they could lead to eutrophication, potentially affecting humans and animals negatively. Other risks or impacts to be considered include waste generated by infrastructure construction, as well as those associated with the management derived from agroecological practices, which involves new practices that will be implemented carefully, specifically regarding the incorporation of green manures (such as composition and timing of incorporation, avoiding the introduction of invasive species, preventing anaerobic fermentation processes in the soil, avoiding nutrient excess, among others) and bioinputs (using registered, well-formulated, and uncontaminated products). In all cases, the regulations set forth by DGSA regarding phytosanitary products, bioinputs and registrations will be observed, as well as those from DIGEGRA related to Good Agricultural Practices, along with others issued by DINAGUA and MGAP.

157. Continuous monitoring will be carried out throughout the project's implementation to assess its compliance with national technical standards and the Environmental and Social Policy of the Adaptation Fund. If necessary, adjustments will be made to ensure compliance. The project will provide regular reports on its environmental and social performance and compliance with standards and policies, promoting transparency and accountability to all stakeholders.

H. Describe if there is duplication of project / programme with other funding sources, if any.

158. This proposal operates in a landscape where several related initiatives exist, primarily financed by national public funds and international cooperation. The analysis below identifies each relevant program, characterizes the nature of the overlap, and explains how this project differentiates itself and coordinates with those efforts.

159. In the area of integrated pest management, the closest thematic overlap occurs with the Regional Horticultural Pest Management Programme launched by DIGEGRA, in coordination with INIA's FTPA 383 and with technical support from the Faculty of Agronomy. Given that its funding concludes in 2026, this proposal is designed to ensure continuity of the technical capacities and knowledge already generated.

160. In the area of agroecological transition and soil health, several programs operate in related but complementary spaces. The SARU project (World Bank / MGAP, active through 2028) has supported agroecological transitions across all agricultural sectors through its "Senda" calls. A first call was launched in 2022, and a second call was launched in 2023 and implemented during 2024. A third call is expected to be launched in the near term, with a specific focus on strengthening Territorial Agroecology Clusters (NATs). Once SARU concludes, this proposal is designed to ensure continuity of those efforts within the horticultural sector, building on the territorial knowledge and organizational structures already consolidated through Senda 1 and 2.

161. At a systemic and scientific level, the FPTA project "Plataforma para la construcción de herramientas y capacidades para el diseño de transiciones productivas sostenibles en Uruguay" (funded by INIA and active until 2027) focuses on developing indicators, monitoring systems, and a sustainability observatory for agro-productive chains. The present project will complement this FPTA and may utilize the analytical tools and scientific frameworks generated by the SARAS Institute to evaluate its own impact.

162. On the seed and biodiversity front, the "Más Agroecología y Biodiversidad" project (funded by the European Union and led by the Red Nacional de Semillas Nativas y Criollas, the Red de Agroecología, and the Red de Huertas Comunitarias, among others) focuses on strengthening civil society organizations and their contribution to the National Agroecology Plan across multiple sectors. This proposal complements that effort by directing technical assistance and resources specifically toward the horticultural context, supporting at least two collective seed reproduction initiatives and generating locally adapted varietal diagnostics not covered by the EU project's scope.

163. Regarding climate risk management, the climate index insurance instruments promoted by DIGEGRA-MGAP and administered through BSE provide a financial mechanism that this project seeks to make more accessible and better understood by family horticultural producers, through targeted training on economic-financial planning.

164. Regarding water access and irrigation, two existing instruments address related challenges. The "Agua para la granja" program (DIGEGRA-MGAP) promotes irrigation technologies for smallholders, while the ITE "Buen uso y gestión del agua en zona metropolitana" (a Specific Territorial Intervention under SINDER, executed by DGDR-MGAP and active during 2024–2025 in the southern metropolitan area) focuses on efficient and sustainable water use, including management of water sources, on-farm hydraulic infrastructure, and monitoring practices. This proposal complements both instruments by operating at a distinct technological layer: it will ensure the continuity and further development of the FertiRIEGO software (INIA), expanding its application beyond tomato to include pepper (a crop with growing relevance in greenhouse horticulture) as well as introducing tensiómeters for soil moisture monitoring and rainwater harvesting systems for greenhouses. None of these specific tools are covered by either the ITE or the "Agua para la granja" program. In this sense, the proposal will be able to provide continuity and technical strengthening to pilot experiences of multi-farm water access systems, such as Econormas Mercosur, which have had limited scope.

165. Activities related to improving market access and product valorization were designed to enhance commercialization through close complementarity with existing initiatives. First, the proposal seeks to scale up and provide continuity to the achievements of the FPTA 383 Regional Horticultural Management Program, which successfully validated the Integrated Production certification process for tomatoes and their labeled commercialization at the UAM, with plans to expand into bell pepper cultivation. While the FPTA began this process with a limited group, this project scales up technical assistance to certify more producers. Second, this component acts synergistically with the DIGEGRA-led 'Call for Preliminary Projects for Commercial, Industrial, and/or Export Integration of Fruits, Vegetables, and Bee Products', which focuses on commercial, industrial, and export integration through agreements between producer organizations and commercial agents. While the ministerial plan focuses on volume planning and chain logistics to ensure producer sustainability, this project adds the necessary layer of valorization and visibility for the success of those agreements. This is achieved through the creation of an application to georeference certified producers and the implementation of a national communication campaign tools that strengthen consumer recognition and ensure that the production integrated into the ministerial plan possesses the differentiation attributes required by the market.

166. On March 19, 2026, IICA, CND, and MGAP convened an inter-institutional technical validation workshop called "Innovation for a Climate-Resilient Horticulture in Uruguay", bringing together representatives from the key institutions active in the sector. One explicit objective of the workshop was to identify overlaps, gaps, and implementation bottlenecks across existing programs, and to define inter-institutional agreements to support this project's execution. The participating institutions validated the complementarity of this proposal with respect to programs already underway, while identifying specific operational spaces where this project fills gaps not covered by existing funding.

I. Describe the learning and knowledge management component to capture and disseminate lessons learned.

167. Initially, a technical-academic committee will be established, comprising INIA, Udelar, and MGAP. This committee will be responsible for organizing training workshops for the technical staff in charge of extension services and for the producers participating in various training activities. A total of 35 technicians will be trained through this process, strengthening their capacities in agroecological approaches, climate change adaptation, and participatory methodologies so that they can continue working in the territories once the project has ended. In this sense, the project not only seeks to expand their technical capacities, but also to promote a working approach that integrates scientific and local knowledge, and that goes beyond isolated interventions, consolidating itself as a sustained mode of engagement in the territories and with family farming populations. In this way, the project will contribute to the development of a National Rural Extension System, identified by MGAP as a strategic priority to respond to a long-standing demand from family farming.

168. The learning and knowledge management component will be embedded in the project's co-innovation approach. Participatory methodologies will be used throughout implementation to promote continuous knowledge exchange among technicians, producers, and participating institutions. Lessons emerging from on-farm co-design and implementation processes will be documented and systematized by a communication specialist using experience systematization methodologies, with the aim of identifying successful practices, implementation challenges, and context-specific adaptation strategies.

169. Regarding results, the preparation of training materials and the production of videos aimed at systematizing experiences and lessons learned are planned. MGAP will be responsible for disseminating

these products through its official channels (website) and within the framework of participatory spaces it shares with representatives of family farming, such as the Rural Development Roundtables, the Monitoring Committee of the National Plan for Family Farming, the Honorary Commission of Agroecology, and rural social organizations.

J. Describe the consultative process, including the list of stakeholders consulted, undertaken during project / programme preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

170. Project preparation began in May 2025 in response to a request from the Ministry of Livestock, Agriculture and Fisheries (MGAP) to address the impacts of climate change on the most vulnerable sectors of rural Uruguay. The initial focus was placed on family horticultural farmers whose livelihoods depend primarily on production and who face greater constraints in adapting to climate change, particularly due to limited access to credit, technology, and productive infrastructure. In June 2025, a working group was established comprising the Inter-American Institute for Cooperation on Agriculture (IICA), the National Development Corporation (CND), and the General Directorate for Farm (DIGEGRA-MGAP). This group met on a weekly basis to develop the initial project concept and define its main lines of intervention.

171. Once a preliminary proposal had been prepared, a broader consultation and validation process was carried out in order to refine the project design and ensure its relevance to the needs of potential beneficiaries and implementing institutions. A central part of this process was the participation in six territorial workshops organized by DIGEGRA with family horticultural farmers in the areas facing the most significant water access constraints and with the highest concentration of horticultural production. Two workshops were held in rural Montevideo, two in Canelones, and two in Salto. Approximately 150 producers participated in total. These workshops served to present the initial project ideas, discuss the main climate-related constraints affecting production, and gather feedback to adjust and improve the project's objectives, activities, and implementation approach.

172. In addition to the territorial consultations with producers, a series of interviews was conducted with representatives of key institutions whose experience and potential role in implementation were relevant for strengthening the technical coherence and operational feasibility of the project. These consultations included the National Water Directorate (DINAGUA), given its role in water resource management and governance; the National Development Agency (ANDE), due to its experience in supporting productive and commercial innovation; the National Agricultural Research Institute (INIA), including the Intensive Plant Production Systems Directorate, and the Coordination of the FPTA 383 which carries out the Regional Horticultural Management Program; and the Faculty of Agronomy of the University of the Republic (Udelar), particularly the Departments of Environmental Systems and Crop Production. These exchanges helped validate the technical soundness of the proposed solutions and identify opportunities for institutional articulation.

173. Subsequently, two consultancies were carried out: one to support the project formulation through the technical analysis of the inputs and documents available at the Ministry of Livestock, Agriculture and Fisheries (MGAP), in order to identify evidence and foundations to support the proposed lines of action regarding adaptation, technological innovation, and agroecological transition; and the second to develop a technical-economic analysis to estimate the feasibility and costs of the proposed solutions to improve access to, quality of, and efficiency in the use of water resources.

174. Once a more refined version of the project had been developed, a final inter-institutional technical validation workshop was held to review the proposed components and gather inputs to strengthen their

technical coherence, operational feasibility, and innovative rationale. Using a participatory methodology, the workshop made it possible to validate the relevance of the proposed solutions, identify gaps, risks, and advance in the definition of institutional agreements and commitments to support implementation. Participants included representatives from several MGAP departments (General Directorate for Rural Development, the Office of Agricultural Programming and Policy, and the General Directorate of Natural Resources), the Horticultural Production and Environmental Systems Departments of the Faculty of Agronomy (Udelar); the Environmental Management Department of the University Centre of the East Coast (CURE-Udelar); the rural development areas of the governments of Montevideo and Canelones; and representatives of the Ministry of Environment, particularly DINAGUA.

175. Finally, the latest version of the project was presented to the Minister of Livestock, Agriculture and Fisheries and to the National Director of Climate Change. This final review made it possible to incorporate the last strategic and technical adjustments before submission.

176. Overall, the project preparation process combined institutional coordination, territorial consultations with direct beneficiaries, and technical validation by relevant public and academic actors. In line with the Environmental and Social Policy of the Adaptation Fund, the process paid particular attention to the participation of vulnerable groups, especially family horticultural farmers exposed to climate-related water constraints, and incorporated gender considerations in the design of consultation spaces and in the identification of differentiated barriers to adaptation.

K. Describe how the project/programme draws on multiple perspectives on innovation from e.g., communities that are vulnerable to climate change, research organizations, or other partners in the innovation space, in the context in which the project/programme would take place.

177. The project draws on four complementary perspectives on innovation: community-based innovation, research-driven innovation, institutional innovation, and market-oriented innovation. Bringing these perspectives together is essential because climate adaptation in family horticulture cannot be solved through a single type of actor or knowledge source.

178. This project is based on the co-innovation approach, which is grounded in three main domains. First, it is recognized as an evolutionary process where diverse agents interact using strategies and tools within the framework of a complex adaptive system. Second, collaborative spaces for social learning are promoted. Third, evaluation processes are implemented to foster continuous reflection regarding the project's direction, constituting a process of dynamic monitoring and evaluation. These described actions are oriented toward inclusive co-design (Rossing et al., 2021).

179. In Uruguay, there are prior experiences applying this approach to family vegetable farming, where diverse actors have been involved. Specifically, for the integration of socio-ecological processes and the agroecological transition, tools such as the MEDITAE framework have been developed. This framework focuses on six key processes: nutrient cycling; carbon and water cycling; plant succession and biotic regulation; energy flows; and socio-economic and cultural processes (Scarlato et al., 2026). The perspectives on innovation considered in the project according to the various stakeholders are outlined below.

180. Beneficiaries: Family farmers, with a special emphasis on women from the most vulnerable vegetable-producing (horticultural) sectors in Uruguay, act as active partners in the co-innovation process. Instead

of being mere recipients, they are involved in the co-design and co-development of innovations based on a systemic and shared diagnosis of their own farms. As leaders and agents of change, they integrate their contextual knowledge into a social learning process, participating directly in the redesign, implementation, and dynamic evaluation of their production.

181. National Agricultural Research Institute (INIA): This actor plays a role as a facilitator and scientific partner, contributing to the development of new, more tolerant and resistant varieties while providing technical knowledge to be integrated with the empirical knowledge of farming families. INIA collaborates on a systemic farm redesign that prioritizes strengthening key socio-ecological processes generating mutually agreed-upon transition strategies tailored to the specific reality of each farm.

182. Educational and Research Institutions (including UdelaR, UTEC, and national partners): These institutions will help expand and scale proposed technologies and practices through the establishment of a technical-academic committee comprising INIA, FAGRO (UdelaR), and MGAP. This committee will be responsible for organizing training workshops for the technical staff in charge of extension services and for the producers participating in the project, fostering a social learning environment. Through this collaborative structure, these institutions will provide training and advice to those interested in the project's themes, ensuring that scientific knowledge is integrated with contextual experience.

183. Government: Various government entities will foster an environment conducive to systemic co-innovation in several ways: by facilitating the implementation of inclusive financing programs for the development of innovative marketing solutions, by promoting social learning, collaboration and co-creation among diverse food-system actors (for example, through workshops, online collaboration platforms, networking events, marketing platforms, etc.), by fostering an innovative culture (as it has done, for example, through the Agtech challenge) and by conducting dynamic evaluation and monitoring to support adaptive management and the generation of actionable knowledge, among other initiatives.

L. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

184. The grant financing requested from the Adaptation Fund is justified because the proposed project addresses adaptation needs that are not being met through existing market incentives, family farmers' own resources, or current public instruments operating under business-as-usual conditions.

185. Family horticulture in Uruguay is highly exposed to increasing droughts, heat stress, water quality constraints, and climate-related pest pressures. At the same time, it is composed largely of small family-based production units with limited margins, low capacity to self-finance long-term adaptation investments, and restricted access to differentiated finance. The sector is primarily oriented toward supplying food to the domestic market, making an important contribution to food security, rather than generating export revenues. Its economic rationale is therefore not based on strong capital accumulation, but on the reproduction of family livelihoods through relatively small-scale systems. Successive water-related crises have further weakened producers' already limited capacity to invest in long-term resilience measures.

186. In the private financial sector, available instruments remain poorly suited to these adaptation needs. Existing green or sustainability-oriented products are still incipient and have focused mainly on carbon footprint reduction and energy efficiency, while most loans continue to be traditional in nature, with relatively high interest rates, short repayment periods, and little differentiation for adaptation investments in family farming. In the public sector, although Uruguay has several relevant programmes, these remain

partial and fragmented, and available resources have largely been used to respond to immediate impacts and short-term emergencies rather than to finance integrated, long-term adaptation processes. As a result, there is a clear financing gap for preventive and transformative investments that could reduce future losses and build resilience over time.

187. Adaptation Fund resources would therefore finance the incremental cost of moving from fragmented and reactive responses to a comprehensive adaptation strategy for a vulnerable productive system. This includes adaptation-specific functions that are unlikely to be financed by producers or commercial finance alone, such as the coordinated technical assistance and co-innovation model, the training of specialized technicians, the validation and broader operationalization of climate-informed irrigation tools, the strengthening of collective water governance arrangements, support for adapted seed multiplication systems, and the generation of knowledge products and institutional methodologies for wider uptake.

188. The requested funding does not substitute for routine agricultural spending. Rather, it finances the additional costs required to reduce climate vulnerability in family horticulture and to enable the uptake of solutions that are already viable but not reaching scale. Without this support, producers and public institutions would likely continue relying on fragmented and short-term measures that do not adequately address underlying climate vulnerabilities. Grant financing is therefore the most appropriate instrument, as the project will generate benefits that extend beyond individual producers, including improved food security, reduced production volatility, strengthened public capacities, and public goods related to water management, seed systems, and institutional learning. Without grant support, these adaptation outcomes would either not materialize or would do so only partially and at insufficient scale.

M. Describe how the sustainability of the project / programme outcomes has been taken into account when designing the project / programme.

189. This project embeds sustainability across four mutually reinforcing dimensions: institutional, technical, physical-technological, and knowledge-based, while simultaneously strengthening the enabling conditions required for sustained uptake and scale-up.

190. Institutional sustainability is anchored in the project's governance structure. DIGEGRA-MGAP, as the primary beneficiary, ensures that results are embedded within the national public institution responsible for agricultural policy and climate risk management. This institutional positioning means that key outputs, including the scaled Regional Pest Management Plan, the updated FertiRIEGO software, and the training methodology for economic-financial planning, are designed from the outset to be institutionalized and replicated beyond the project's lifetime. In particular, training materials will remain available to MGAP for reuse and scaling through existing extension programs. The establishment of an Academic Committee (FAGRO, INIA, DIGEGRA) further strengthens institutional capacity by defining technical content, methodologies, and monitoring frameworks, while laying the foundation for a formal academic curriculum that can be adopted by educational institutions and replicated in other territories. CND's role as the Adaptation Fund access entity reinforces institutional accountability and alignment with national development planning frameworks.

191. Technical sustainability is ensured through the formation of a cadre of 35 technicians with integrated competencies across all intervention lines. These professionals will remain active in the sector beyond the project, constituting a durable human capital base capable of continuing to support family horticultural producers and sustaining the advisory model.

192. Physical and technological sustainability is guaranteed through ownership and institutional anchoring of assets. The collective water access infrastructure will remain under the management of strengthened

producer organizations, while individual on-farm investments (such as rainwater harvesting systems and soil monitoring equipment) become productive capital of the beneficiary families. The FertiRIEGO software, developed and maintained by INIA, will be expanded to cover the scope of application for pepper cultivation and remain within the national public research system, ensuring open access and long-term usability.

193. Knowledge sustainability is addressed through the systematic documentation and dissemination of project outputs, including technical protocols, monitoring data, and experimental validation results. These will be made available as public goods, supporting replication and continuous learning. A targeted scaling strategy will further extend impacts beyond direct beneficiaries (400 out of 1,978 family horticultural units), using dissemination materials adapted to producer profiles and leveraging institutional networks, producer organizations, and extension services.

194. In parallel, the project strengthens key enabling conditions for sustained adoption. At farm level, capacity-building in economic and financial management addresses a critical structural barrier by improving producers' ability to plan investments, access credit, and use risk management tools such as index-based climate insurance. This contributes to the economic viability of production systems and supports continued investment in adaptation measures over time. At market level, actions aimed at improving product valorization and access to differentiated markets, including certifications, labels, and short value chains, help create more favorable conditions for commercialization, reinforcing economic sustainability. While market outcomes cannot be guaranteed, these measures reduce structural constraints and enhance incentives for maintaining agroecological practices.

195. Together, these elements ensure that project outcomes are not only sustained after completion but also progressively scaled within national systems, contributing to long-term resilience in Uruguay's family horticultural sector.

N. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

196. In accordance with the Adaptation Fund's guidelines, the preliminary analysis classifies this project as Category B risk. The identified impacts are manageable and will be addressed through proportionate mitigation measures. There is a commitment to formalize a comprehensive Environmental and Social Management Plan (ESMP) during the development phase of the full proposal.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	No additional evaluation required.	No direct legal compliance risks have been identified. Activities will be based on existing frameworks. Regulations from DGSA regarding bio-inputs and phytosanitary products, and from DINAGUA for waterworks, will be strictly observed.
Access and Equity	Additional evaluation required.	Medium risk of: concentration of benefits or exclusion of small-scale producers if

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		technologies or certifications involve unattainable costs or requirements. Mitigation: design of differentiated technical assistance based on producer typology. Partial subsidies for equipment and promotion of collective solutions.
Marginalized and Vulnerable Groups	Additional evaluation required.	Risk: exclusion of low-income families if the project prioritizes profiles with greater investment capacity. Mitigation: explicit focus on family farming and clear producer selection criteria.
Human Rights	No additional evaluation required.	Activities are designed to support the realization of the right to a healthy environment and do not foresee any restriction of basic rights.
Gender Equity and Women's Empowerment	Additional evaluation required.	Risk: gaps in decision-making and remuneration; mobility constraints and the disproportionate burden of care work that hinder women's participation. Mitigation: strengthening of the 'MURÚ' seal for women-led products. Establishment of childcare spaces during workshops, and coverage of eligible transportation costs to facilitate women's participation.
Core Labour Rights	No additional evaluation required.	Works and services will comply with national labour law and ILO core labour standards; no child or forced labour is foreseen.
Indigenous Peoples	No additional evaluation required.	No indigenous peoples as defined by the AF-ESP have been identified in the proposed intervention areas.
Involuntary Resettlement	No additional evaluation required.	No land acquisition or physical/economic displacement is envisaged; interventions will be located on public land or existing rights-of-way.
Protection of Natural Habitats	No additional evaluation required.	No protected areas or areas of conservation interest will be affected by the project. Nor are conversions made between different land uses. Likewise, the project seeks to improve

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		the state of ecosystems, by promoting, for example, the more efficient use of water and the reduction of the use of phytosanitary products.
Conservation of Biological Diversity	No additional evaluation required.	The project will not introduce any invasive exotic species. On the contrary, the promotion of good agricultural practices and ecosistem-based solutions contributes to conserving biodiversity.
Climate Change	Additional evaluation required.	Risk: indiscriminate increase in production volume without market demand. Mitigation: coordination with market channels to absorb the output.
Pollution Prevention and Resource Efficiency	Additional evaluation required.	Low risks: If new water sources to feed irrigation systems are not managed properly, they could cause eutrophication, with potential negative effects for humans and animals.
Public Health	No additional evaluation required.	The project protects workers and communities by scaling the Regional Pest Management Plan and promoting agroecological transitions to reduce chemical exposure. It adopts a "One Health" approach by promoting healthier interactions between soils, crops, ecosystems, and people, ensuring a safer work environment focused on soil health. All safety regulations will be strictly followed.
Physical and Cultural Heritage	No additional evaluation required.	No physical or cultural heritage sites are expected to be affected.
Lands and Soil Conservation	No additional evaluation required.	The project fosters agroecological transitions to strengthen soil health through compost incorporation, sustainable pest management, and efficient resource use, which will directly contribute to soil conservation.

References:

Ackermann, M. N. (2023). *Horticultura: Situación y perspectivas.* Anuario OPYPA, 22.

Ackermann, M. N., Aguirre, E., Cortelezzi, Á., Gorga, L., Mila, F., & Sanguinetti, M. (2024). *Estimación de la participación económica de la producción familiar entre 2018-2022 en Uruguay.* ANUARIO OPYPA | 2024.

Alliaume, F., Rossing, W. A. H., Tittonell, P., Jorge, G., & Dogliotti, S. (2014). *Reduced tillage and cover crops improve water capture and reduce erosion of fine textured soils in raised bed tomato systems.* Agriculture,

Ecosystems & Environment, 183, 127–137.

Banco Central del Uruguay. (2026). *Cuentas Nacionales: Cuarto trimestre 2025 y año 2025.* https://www.bcu.gub.uy/Estadisticas-e-Indicadores/Cuentas%20Nacionales/Informe%20de%20Cuentas%20Nacionales%20Trimestrales_2025_IV.pdf

Barreto, P., Dogliotti, S., & Perdomo, C. (2017). *Surface Water Quality of Intensive Farming Areas Within the Santa Lucia River Basin of Uruguay.* Air, Soil and Water Research, 10.

Berrueta, C., & Grasso, R. (2024). *EL PROBLEMA DE LA ACUMULACIÓN DE SODIO EN SUELOS BAJO INVERNÁCULO Y CÓMO MANEJARLO.* Revista INIA, 76.

Berrueta, C., Grasso, R., Dogliotti, S., Scarlato, M., Alliaume, F., Machado, D., & Manzzioni, A. (2025). *Manejo eficiente de la fertirrigación en el cultivo de tomate bajo invernáculo.* INIA.

Cabrera, G., Pizzolón, A., Orcasberro, G., Rodríguez, P., & Canobra, F. (2022). *RELEVAMIENTO PARA LA CREACIÓN DE UNA LÍNEA DE BASE DE LA PRODUCCIÓN AGROECOLÓGICA DEL URUGUAY.* Plan Nacional para el Fomento de la Producción con Bases Agroecológicas.

Climate Analytics. (s. f.). *Climate Impact Explorer.* Recuperado el 17 de abril de 2026, de https://climate-impact-explorer.climateanalytics.org/

Climate Vulnerability Monitor. (2026). *Climate Vulnerability Monitor.* Biophysical Data Explorer.

Dogliotti, S., Scarlato, M., Berrueta, C., Barros, C., Rehermann, F., Rieppi, M., & Borges, A. (2021). *Analisis y jerarquizacion de factores determinantes de las brechas de redimiento y calidad en los principales cultivos hortícolas del Uruguay.* Serie FPTA-INIA 91.

FAO. (2025). *Integrated Pest Management.* FAO.

FAO, & CIRAD. (2021). *Fruit and vegetables.* FAO, CIRAD.

Florit, P. (2023). *Capitalismo y subsunción indirecta de las unidades domésticas de producción agropecuaria ganaderas en Uruguay.* El Uruguay desde la Sociología, 20, 333–354.

García Inza, G. P., Paruelo, J. M., & Zoppolo, R. (2023). *Aportes científicos y tecnológicos del INIA a las trayectorias agroecológicas* (A. Albin et al., Eds.). Fundación CICCUS.

Giménez, M., Berenstecher, P., Ligrone, A., Iraola, G., & Piñeiro, G. (2025). *Soil microbiome analysis of Uruguayan grasslands and croplands reveals losses of microbial diversity and necromass recycling traits.* Environmental Microbiome, 20(1), 96.

Gómez Perazzoli, A., Gazzano, I., & Dieguez Camcroni, F. (2024). *Agricultura familiar agroecológica en Uruguay, aportes innovadores y contra-hegemónicos para la sustentabilidad.* Agrociencia Uruguay, 28.

Facultad de Agronomía. (s.f.). *Programa Manejo Regional Hortícola FPTA 383.* https://portal.fagro.edu.uy/programa-manejo-regional-horticola-fpta-383/

Hill, M., Clérici, C., Mancassola, V., & Sánchez, G. (2015). *Estimación de pérdidas de suelo por erosión hídrica en tres diferentes sistemas de manejo hortícola del sur de Uruguay.* Agrociencia (Uruguay), 19(1), 94–101.

INE. (2013). *Las Necesidades Básicas Insatisfechas a partir de los Censos 2011.*

INE. (2022). *Índice de Precios del Consumo (IPC): Base octubre 2022 – estructura de ponderaciones de la canasta.*

INE. (2024). *Estimación de la pobreza por el método del ingreso.* INE.

INE. (2025). *Estimación de la pobreza por el método del ingreso.*

INIA. (2009). *Programa nacional de producción hortícola. 19.*

INIA. (2022). *Mejoramiento Genético de Hortalizas.* INIA.

INIA. (2023). *Susceptibilidad de erosión de los suelos de Uruguay* [Dataset].

Instituto Uruguayo de Meteorología. (n.d.). *Características climáticas.* Retrieved April 20, 2026, from https://www.inumet.gub.uy/clima/estadisticas-climatologicas/caracteristicas-climaticas

INUMET. (2026). *Climatological statistics 1991–2020.*

MapBiomas. (2025). Https://uruguay.mapbiomas.org/.

MGAP. (2020). *Carta de erosión antrópica* [Map].

MGAP. (2023). *Anuario OPYPA*. MGAP.

MGAP. (2024). *Plan Nacional de Agricultura Familiar.*

MGAP. (2025). *Registro Nacional Frutihortícola* [Dataset] (Citado en el texto como RNFH, 2025).

MGAP, & FAO. (2021). *Plan nacional de género en las políticas agropecuarias de Uruguay*. MGAP, FAO.

MGAP, & SNRCC. (2019). *Plan Nacional de Adaptación a la Variabilidad Climática y el Cambio Climático para el Sector Agropecuario.*

Millán, J., & Romero, D. (2023). *Caracterización productiva, social, ambiental y económica del sector hortícola-frutícola en Uruguay*. IICA.

Ministerio de Ambiente. (2017). *Plan Nacional de Aguas.*

Moliní Gimeno, A., & Reverter Bañón, S. (Eds.). (2022). *La praxis feminista en clave transformadora*. Universitat Jaume I.

Montevideo Rural - IM (2013). *Montevideo Rural Sustentable: Sistemas de producción sustentables para agricultores familiares.* Extraído de: https://montevideo.gub.uy/sites/default/files/informefinalproyectomontevideoruralsustentable.pdf (en línea).

Polack, L., López, S., Silvestre, C., Viscarret, M., Andorno, A., del Pino, M., Peruzzi, G., Gomez, J., & Iezzi, A. (2017). *Control biológico en tomate con el mírido Tupiocoris cucurbitaceus*. INTA.

Rivas, M., Vidal, R., Neitzke, R. S., Priori, D., Almeida, N., Antunes, I. F., Galván, G. A., & Barbieri, R. L. (2023). *Diversity of vegetable landraces in the Pampa biome of Brazil and Uruguay*. Frontiers in Plant Science, 14.

Rossing, W. A. H., Albicette, M. M., Aguerre, V., Leoni, C., Ruggia, A., & Dogliotti, S. (2021). *Crafting actionable knowledge on ecological intensification: Lessons from co-innovation approaches in Uruguay and Europe.* Agricultural Systems, 190, 103103.

Scarlato, M., Dogliotti, S., Bianchi, F. J. J. A., & Rossing, W. A. H. (2022). *Ample room for reducing agrochemical inputs without productivity loss.* Science of The Total Environment, 810.

Scarlato, M., Rieppi, M., Ferreira, I., Irurueta, S., Fernández, D., Bianchi, F. J. J. A., Rossing, W. A. H., & Dogliotti, S. (2026). *Operationalising agroecological diagnosis of vegetable farms to support co-innovation: The MEDITAE framework.* Agricultural Systems, 233.

Sistema Nacional de Emergencias (2026). *Informe de situación hídrica 2026.* Extraído de: https://www.gub.uy/sistema-nacional-emergencias/comunicacion/publicaciones/informe-situacion-hidrica-marzo-2026 (en línea).

SNRCC. (2024). *Tercera Contribución Determinada a Nivel Nacional de Uruguay (NDC3).* Sistema Nacional de Respuesta al Cambio Climático (SNRCC). (Citado en).

SNRCC. (2022). *Segunda Contribución Determinada a nivel Nacional al Acuerdo de París.*

UAM. (2024). *Anuario Estadístico UAM.* UAM, MGAP.

Uruguay XXI. (2024). *Agricultural Sector in Uruguay.*

World Bank. (2025). *Uruguay Poverty and Equity Brief: October 2025.* World Bank Group.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s)[5]	Project Objective Indicator(s)	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Objective 1. Strengthening the adaptive capacity of family horticultural production systems.	Number of innovations successfully reaching scale up that demonstrate local innovation participation and/or local innovation benefit (e.g., integrated co-innovation technical assistance model, collective water access governance model, greenhouse-linked rainwater harvesting and storage model, climate-informed irrigation management package, and adapted seed multiplication model). Number of institutions created and/or enabled that lead on innovation for adaptation to climate change (e.g., Academic Committee, technical assistance delivery arrangements, and collective governance arrangements strengthened through the project).	Outcome 8: Innovation for effective, long-term adaptation to climate change accelerated, encouraged, and enabled to scale up.	Indicator 8.1: Innovations successfully reaching scale up that demonstrate local innovation participation and/or local innovation benefit [# of innovations] Indicator 8.2: Institutions created and/or enabled that lead on innovation for adaptation to climate change [# of institutions, disaggregated by scale]	2,967,194
Objective 2. Improving access to water, water-use efficiency, and water quality through technical,	Number of services and/or infrastructure assets strengthened to respond to climate variability and change, including collective water access infrastructure, on-farm rainwater harvesting and storage	Outcome 4: Increased adaptive capacity within relevant development sector	Indicator 4: Physical assets improved or constructed to withstand climate variability and change	866,000

[5] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply Adaptation Fund Outcome Indicator: Update to the Adaptation Fund Strategic Results Framework. AFB/B.45/8. Oct 9-10, 2025.

organizational, and governance solutions.	systems, and climate-informed water management tools deployed at farm level.	services and infrastructure assets.	[disaggregated by km of linear infrastructure and # of point infrastructure, and by sector]	
Objective 3. Enhancing market access and the recognition of sustainable practices to support sustained adaptation uptake.	Number of institutions/organizations with strengthened capacity to understand and better address climate risks and resilience through commercialization support, certification support, public procurement access, and demand-side recognition mechanisms for climate-resilient production.	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses.	Indicator 2: Institutions with strengthened capacity to understand and better address climate risks and resilience [# of institutions, disaggregated by scale and sector]	386,806
Total				**4,220,000**
Project Outcome(s)	Project Outcome Indicator(s)	Adaptation Fund Output	Adaptation Fund Output Indicator	Grant Amount (USD)
1.1. Agroecological transitions promoted to strengthen soil health, water-use efficiency, and sustainable pest management.	Number of family horticultural farming units implementing at least one integrated adaptation package supported by the project to improve resilience to droughts, heat stress, water constraints, and climate-related pests and diseases. Number of technicians trained and deployed to provide integrated technical assistance *(disaggregated by gender)*. Number of family horticultural farming units receiving sustained technical assistance for farm redesign and agroecological transition.	Output 8.1: Innovations identified and piloted that collectively enhance local innovation capacity and contribute to the development of local, national and regional adaptation innovation ecosystems.	Indicator 8.1.1: Innovations identified that demonstrate local innovation participation and/or local innovation benefit [# of proposed innovations] Indicator 8.1.2: Innovations piloted that demonstrate local innovation participation and/or local innovation benefit [# of innovations]	2,791,360

1.2. Local capacities for the reproduction and availability of adapted seed varieties strengthened.	Number of group initiatives supported for the multiplication and distribution of adapted seed varieties.	Output 8.1: Innovations identified and piloted that collectively enhance local innovation capacity and contribute to the development of local, national and regional adaptation innovation ecosystems.	Indicator 8.1.1: Innovations identified that demonstrate local innovation participation and/or local innovation benefit [# of proposed innovations]	38,592
1.3. Economic and financial management capacities of family horticultural producers strengthened, with a particular focus on climate insurance management.	Number of key findings generated from the implementation of innovative adaptation practices, tools, and technologies. Number of communication, learning, and dissemination initiatives undertaken to support replication.	Output 8.2: Innovations identified and piloted which build the adaptation innovation evidence-base and institutional capacity.	Indicator 8.2.2: Learning and sharing initiatives undertaken, including communication initiatives [# of learning and sharing initiatives]	25,000
1.4. Knowledge products developed and disseminated to expand the reach of project capacities and support replication across the horticultural sector.	Number of key findings generated from the implementation of innovative adaptation practices, tools, and technologies. Number of communication, learning, and dissemination initiatives undertaken to support replication.	Output 8.2: Innovations identified and piloted which build the adaptation innovation evidence-base and institutional capacity.	Indicator 8.2.1: Key findings generated from an innovation practice, tool, and/or technology [# of key findings] Indicator 8.2.2: Learning and sharing initiatives undertaken, including communication initiatives	112,242

			[# of learning and sharing initiatives]	
2.1. The number of family horticultural producers with safe and sustainable access to water increased.	Number of family farming units using collective water access infrastructures strengthened. Number of on-farm rainwater harvesting, storage, and use systems implemented through hydrosilos and/or rehabilitated cisterns.	Output 4.1: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability.	Indicator 4.1.1: Development sector services strengthened to respond to climate variability and change [# of sector services, disaggregated by sector and scale]	791,000
2.2. Water-use efficiency and water quality improved.	Number of farming units adopting climate-informed water management practices, inputs, and technologies. Number of soil moisture monitoring instruments delivered and in use.	Output 4.1: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability.	Indicator 4.1.1: Development sector services strengthened to respond to climate variability and change [# of sector services, disaggregated by sector and scale]	75,000
3.1 Commercial differentiation of products strengthened through the certification of sustainable practices.	Number of family horticultural producers supported to obtain certification under sustainable production schemes currently available in Uruguay.	Output 2.1: Strengthened capacity of institutions to understand and better address climate risks.	Indicator 2.1.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience [# of institutions, disaggregated by scale and sector]	No additional cost
3.2 Market access and commercialization conditions for family horticultural	Number of commercialization mechanisms strengthened, including UAM visibility arrangements,	Output 2.1: Strengthened capacity of institutions to understand and better address climate risks.	Indicator 2.1.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience	100,000

producers improved.	georeferenced application, and support for RUPE and MURU registration. Number of institutions/organizations supported to improve climate-resilient commercialization conditions.		[# of institutions, disaggregated by scale and sector]	
3.3 Consumer recognition of the value of certified horticultural products strengthened.	Number of communication initiatives undertaken to promote the recognition and uptake of certified climate-resilient horticultural products.	Output 8.2: Innovations identified and piloted which build the adaptation innovation evidence-base and institutional capacity.	Indicator 8.2.2: Learning and sharing initiatives undertaken, including communication initiatives [# of learning and sharing initiatives]	286,806
Total				**4,220,000**

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[6] *Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project / programme. Add more lines as necessary. The endorsement letters should be attached as an annex to the project/programme proposal. Please attach the endorsement letters with this template; add as many participating governments if a regional project/programme:*

María Fernanda Souza, National Director of Climate change, Ministry of Environment	Date: 04/24/2026
Alfredo Fratti, Minister, Ministry of Livestock, Agriculture and Fisheries	Date: 04/22/2026
Laura Gonzalez, National Director of the Farm, Ministry of Livestock, Agriculture and Fisheries	Date: 04/21/2026

[6] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.
Implementing Entity Coordinator:  Rafael Laureiro, CND General Manager

Date: 04/27/2026	Tel. and email: +598 2916 2800; cnd@cnd.org.uy
Project Contact Person: Luciana López, Environmental Programs Coordinator Tel. And Email: +598 2916 2800 int. 285; llopez@cnd.org.uy	

Ministerio
de Ambiente

Letter of Endorsement by Government

Government of Uruguay, Ministry of Environment

April 24th, 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Endorsement Concept Note for the Project "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay".

Dear Members of the Adaptation Fund Board,

In my capacity as the Designated Authority for the Adaptation Fund in Uruguay, I confirm that the above national Concept Note proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce the adverse impacts and risks posed by climate change in Uruguay.

Accordingly, I am pleased to endorse the above Concept Note proposal and with support from the Adaptation Fund. If the concept note is approved, the full project proposal will be submitted by Corporación Nacional para el Desarrollo (CND) as the implementing entity.

Sincerely,

María Fernanda Souza
National Director of Climate Change
Ministry of Environment

Ministerio
de Ganadería,
Agricultura y Pesca

Nota No.25

Montevideo, April 22th, 2026

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the project " Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay

As Minister and Viceminister of the Ministry of Livestock, Agriculture and Fisheries (MGAP), and as the sectoral national authorities of the abovementioned proposal, we hereby confirm that the project "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay" aligns with the national priorities of the Government of Uruguay in advancing climate change adaptation in the agriculture sector.

In our country, horticulture plays a vital role in ensuring food security, promoting sustainable land use, and supporting local economies. However, it is also a sector highly vulnerable to climate variability and extreme weather events, which can significantly affect production and livelihoods. of thousands of family farmers.

The proposed project reinforces government strategies aimed at strengthening the agricultural sector. Sstrategies as the guidelines established under the National Policy on Climate Change, the National Adaptation Plan for Agriculture (NAP-Ag), the National Family Farming Plan, the National Agroecology Plan.

Accordingly, we are pleased to endorse this project proposal for submission to the Adaptation Fund. If approved, the project will be implemented by National Development Corporation (CND) of Uruguay and executed by the Inter-American Institute for Cooperation on Agriculture (IICA) with the General Directorate of

Agricultural Development (DIGEGRA - MGAP) as the direct beneficiary of the project.

Sincerely,

DMV Alfredo Fratti Silvera
Ministro
Ministerio de Ganadería Agricultura y Pesca

Ing. Agr. Matías Carámbula Pareja
Subsecretario
Ministerio de Ganadería Agricultura y Pesca

Ministerio de Ganadería, Agricultura y Pesca

Dirección General de la Granja

Montevideo, April 21st, 2026

To: The Adaptation Fund Board

c/o Adaptation Fund Board Secretariat

Email: Secretariat@Adaptation-Fund.org

Fax: 202 522 3240/5

Subject: Endorsement for the project "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay""

In my capacity as the Head of the General Directorate of Horticulture (DIGEGRA) of the Ministry of Livestock, Agriculture and Fisheries (MGAP), and as the sectoral national authority of the abovementioned proposal, I hereby confirm that the project "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay" aligns with the national priorities of the Government of Uruguay in advancing climate change adaptation in the agriculture sector.

The horticulture sector in Uruguay is particularly vulnerable to climate variability and extreme weather events, which threaten the food security, economic stability, and livelihoods of thousands of family farmers. The proposed project supports national efforts to strengthen resilience through the adoption of innovative adaptation technologies, sustainable production practices, and inclusive market mechanisms. It also reinforces the strategic guidelines established under the National Policy on Climate Change and the National Adaptation Plan for Agriculture (NAP-Ag).

Accordingly, I am pleased to endorse this project proposal for submission to the Adaptation Fund. If approved, the project will be implemented by National Development Corporation (CND) of Uruguay and executed by the Inter-American Institute for Cooperation on Agriculture (IICA).

Sincerely,

Ing. Agr. Laura Gonzalez

Directora General de la Granja

Ministerio de Ganadería Agricultura y Pesca

CRS/UY – R 77
FECHA: 20/04/2026

Letter of Commitment by the Executing Entity
Inter-American Institute for Cooperation on Agriculture (IICA) – Uruguay

April 20th, 2026.
To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org
Fax: 202 522 3240/5

Subject: Commitment to serve as Executing Entity for the project "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay"

Dear Members of the Adaptation Fund Board,

In my capacity as Representative in Uruguay of the Inter-American Institute for Cooperation on Agriculture (IICA), I am pleased to confirm IICA's commitment to serve as the Executing Entity for the proposed project entitled "Driving Innovation for a Climate-Resilient Horticulture Farming in Uruguay."

In this role, IICA will support project execution in close coordination with the Corporación Nacional para el Desarrollo (CND), as Implementing Entity, the Dirección General de la Granja of the Ministerio de Ganadería, Agricultura y Pesca (DIGEGRA-MGAP), and the Dirección Nacional de Cambio Climático of the Ministerio de Ambiente (DINACC-MA), in accordance with the policies, procedures, and fiduciary standards of the Adaptation Fund.

Should the Concept Note be approved, IICA stands ready to assume the responsibilities required for the execution of the project and to contribute its technical, administrative, and institutional capacities to ensure its effective implementation. If the concept note is approved, the full project proposal will be submitted by Corporación Nacional para el Desarrollo (CND) as the implementing entity.

Sincerely,

Rodrigo Saldias
Representative in Uruguay
Inter-American Institute for Cooperation on Agriculture (IICA)