

TEMPLATE FOR THE I.S.I.P. COMPETITION PROGRAM

Program Profile	
Institute/Organization/Office Name	MCC Center for Community Research and Innovation MCC Kayantabe
Institute Dean/Immediate Supervisor/Organization Adviser	Mr. James Darwin T. Lagman and Ms. Carol Arboleda
Email address	mcc.ccri@gmail.com
Program Name / Title	BA gong pag-asa LA yon para sa mga kapatid na KAT utubo (New Hope for our Indigenous Brother and Sisters): Community Empowerment Through Science and Technolgy in Sitio Haduan: Equipping Local Residence with Necessary Skills and Competence
Category (Please mark (x) just one)	<input type="checkbox"/> 1. Industrial Application <input type="checkbox"/> 2. Entrepreneurial Spirit <input checked="" type="checkbox"/> 3. Ethical Value <input type="checkbox"/> 4. Student Mobility and Openness <input type="checkbox"/> 5. Crisis Management <input type="checkbox"/> 6. Progress in the Fourth Industrial Revolution

Abstract of Program (200-300 words)

Balakat tree has been popularly known for its historical significance as it enriches the city’s rich culture. However, because of continuous human activities, the environment is greatly affected, so its living organisms; a living proof of this is the gradual disappearance of Balakat tree which led to unawareness of some Mabalaqueños on the existence of this tree. Considering the situation, the Office of the Center for Community Research and Innovation in joint partnership with Kayantabe has come up with a program proposal of producing Balakat tea which envisions to help the people of Sapang Biabas and restore the Balakat tree as part of the city’s rich history with three key objectives: 1) to propagate Balakat trees through the means of planting Balakat seedlings through the natural process on the extension site located at Sapang Biabas 2) preserve the Balakat trees by close monitoring of personnel and maintaining its extract and compositions through rinsing, drying its leaves on and leaving it for a period and; 3) promote or cultivate the dried Balakat leaves by processing it into tea and introducing it to the market later on.

As stated above, this proposed program is designed to produce high quality Balakat tea to provide health benefits to the people and community of Sapang Biabas. On the other hand, in this era where technology is adapted and integrated in all aspects of life as it contributes to the advancement, this encourages local farmers to sustain their agricultural skills in natural processes. Moreover, this program will strengthen the collaboration between the community and institution as it engages both parties to achieve the desired goals which will be beneficial mutually and most importantly, to release the Balakat tea on market which will help the local farmers and other stakeholders to strengthen their bargaining power and make profit.

Planning

Background	The program is designed to address one of the issues that the communities of Mabalacat is facing; the gradual disappearance of Balakat trees. As stated by studies conducted, this tree is significant to the communities of the city as it serves as a material to be used in conserving and protecting the natural resources. (See Appendix R)	
Subject	Initiator(s)	Mr. James Darwin T. Lagman and Ms. Carol Arboleda
	Leader(s)	Mr. James Darwin T. Lagman and Ms. Carol Arboleda

(Names & titles)	Team members	Staff of the CCRI, Kayantabe and City Agriculture Office, selected AB History students
Environment	Nature/society	Agriculture, Haduan IP Communities
	Industry/market	Hotels, Coffee shops and market
	Government/others	City Agriculture Office, Department of Science and Technology (DOST)
Resources	Human requirements	The proposed program will be managed by the Center for Community Research Innovation and Kayantabe with selected students from the AB History Program. Students were already trained on how to execute the processes and the selected staff were tasked to do monitoring and provide assistance to students. In addition to execute the production of tea, Aeta communities will be part of the team. (See Appendix E)
	Financial requirements	To make the program feasible and successful, the institution which is the proponent shall provide a budget to cover all the necessary equipment needed from the first phase to the last phase of the production amounting to P6, 526, 063.00. In addition, the Department of Science and Technology (DOST) Region III will be funding an amount of P2,324,952.00. The total project cost is amounting to P8, 851, 015.00. (See Appendix G)
	Technological/other requirements	The program will require equipment such as tea-making machine during the production phase.
Mechanism	Strategic options available	<p>This program possesses the following strategic options: The first phase is the cultivation of Balakat trees employing propagation through various activities such as: harvesting by the employees from City Agricultural Office. To sustain the growth of the seedling, it is subjected to potting. Right after the process of potting, 1-2 weeks of thinning is expected where the seedlings are subjected to actual exposure to environmental conditions as part of the tree's adaptation to climate and changing conditions since it will be transplanted and grown into conditions outside the greenhouse. To sustain the growth of the Balakat seedlings, a minimal amount of inorganic fertilizer and a full amount of sunlight is needed. The second phase involves the establishment of Balakat Sanctuary where the chosen target is an acre of land of Sitio Haduan, Brgy. Marcos Village. The objective of building the sanctuary is to protect the trees from the mower and string trimmer damage and to make this possible, trees in turf areas should have a bare ring of the ground around each tree that has been mulched and a solar water pump will be built to help in tree watering. Following is the third phase which is the Establishment of a Hiking Trail to the Haduan Falls and the construction of innovative sheds that will propel Sitio Haduan as a potential hiking trail destination in the region that offers various experiences like Balakat Tree</p>

Sanctuary visit, interaction with the indigenous people, and visit at the Haduan Falls. Upon the establishment of the trail, the Community Development will guide the IP Communities to develop different economic activities that will give a contribution to the improvement of their lives and promotion that leads to the development of promotional strategies in developing Sitio Haduan as a Hiking Trail destination. To further create some improvements, site development will occur to protect the hikers from any harm such as accidents on elevated areas and acrylic signages will be created to guide the hikers to their destinations. To create a safer zone for tourists, an innovative shed will be constructed to be supervised by the City Government Unit in collaboration with Mabalacat City College and the Department of Science and Technology.

The final phase of this program is the processing and marketing of Balakat tea which comprises of 3 phases: Product development phase, production phase, and brand development and market introduction. The first phase comprises the following activities: implementation of the development product, its prototype, and determining the portability of the tea which also involves ingredient modification following health and safety protocols. This is to be followed by the harvesting of Balakat leaves, drying, crushing, and homogenization of leaves which will be conducted through a steaming procedure. To complete the procedure, shaping, drying, and final drying are the last three steps.

The four mentioned strategic methods above clearly show that this program with four projects is intended to help the people and its community in various aspects such as training local farmers in organic agricultural practices, knowledge, and skills which have the benefit of increased health and yield of crops. Aside from these benefits, farmers were also trained in vegetable conservation agriculture specifically training on soil cover, training on minimizing tillage, training on planting with precision, training on the importance of cover crops, weed management training, and crop residue management. These training were thoroughly conducted to analyze the contributing factors to soil infertility resulting from low crop/food production experienced by the community. Besides the agricultural practices, the people of Haduan were also taught on the Crop Nutrient Management Training designed to achieve productivity in a way that the protection of environmental and natural resources is ensured and to

		<p>rebuild long-term soil fertility. Additionally, Integrated Pest Management Training was introduced in response to providing alternative techniques before the availability of pesticides. Lastly, people of the IP communities were trained in Bamboo Nursery which establishes a procedure to secure nursery sites.</p>
	<p>Their relative importance</p>	<p>This program is conducted to achieve its main goal of planting Balakat trees in the community. In addition, this propagation will open new opportunities to people of Haduan as it will provide employment. Moreover, this program will be a great contribution in the agricultural aspect as it will sustain the use of the lands located on the area. Apart from that, the existence of Balakat trees will promote and boost the eco-tourism of Haduan as it thrives to be one of the tourism destinations in Mabalacat.</p> <p>Therefore, this program is conducted to provide historical, economical, agricultural and cultural importance to the communities of Mabalacat. With the introduction of tea, Mabalaqueños will be fully aware and appreciate the existence of Balakat trees a part of their history and way of life.</p>
	<p>Their sequences for execution</p>	<p>The program will be executed in four sub-components namely: Propagation of Balakat Trees, Establishment of Balakat Sanctuary, Establishment of Hiking Trail, and Processing and Marketing of Balakat Tea. The first phase involves different processes such as the establishment of the greenhouse to be used in propagating the Balakat trees and other herbal and medicinal plants. This phase also includes the sustaining of the trees and transplantation of 250 trees in Sitio Haduan which will, later on, generate employment for the community and empower women as they participate and get involved in the production. Aside from the mentioned activities, the establishment of the Balakat Sanctuary and Hiking Trail is also expected as it minimizes the possible risks and hazards for potential tourists. To complete the first phase, Balakat Café is expected to be built to process the Balakat tea and commercialize it into the market and introduce its health benefits.</p> <p>Following the propagation is the establishment of Balakat Sanctuary which is also composed of various activities such as providing livelihood utilizing hiring workers who will build the sanctuary and compost area. In addition, the hiring of maintenance personnel facilities is also needed. The essence of building the Balakat Sanctuary is to provide educational benefits as it raises the awareness of the visitors on the importance and benefits of preserving and propagating Balakat Trees.</p>

		<p>Meanwhile, the establishment of a compost area can be helpful to the people of the community as it serves as a source of income for the locals of Sitio Haduan.</p> <p>The third phase is the Establishment of the Hiking Trail which is significant to the community and people as it provides awareness to the tourists and allows them to appreciate the natural resources. This establishment opened opportunities as it was able to provide a livelihood to the people of IP Communities since the hiring of workers and maintenance personnel facilities is expected. Moreover, this establishment will also provide income to members who will serve as tour guides.</p> <p>The last phase is the Processing and Marketing of Balacat Tea where introducing and commercializing the tea in the market is the ultimate goal of this phase. To achieve this goal, the following procedures are expected to be accomplished: The production of tea and the introduction of its health benefits to the market to contribute to the improvement of health conditions. The success of this project will benefit the members as it will provide employment and empowerment to the women of the Sitio. This will also contribute to the economic development of the locality. Aside from the economic aspect, the production of Balakat Tea is also beneficial to the students and future researchers as this project can serve as a related literature in their further studies concerning herbal and medicinal components of a tree.</p>
Content		<p>As stated above, the purpose of this proposal is to conserve the Balakat trees considering its health benefits to people and contribution to the community and city. Furthermore, this project provides agricultural opportunities to the IP Communities of Sitio Haduan as it enhances their agricultural skills, provide income and sustained their agricultural lands. It also empowers women as they actively participated and engage in the livelihood project. Finally, this program provides cultural promotion as these projects symbolizes the history and culture of the city and raising the awareness of the people of Haduan, Mabalacat City and tourists and learning to appreciate the natural resources.</p> <p>Besides the mentioned objectives, the program is divided into three major phases consisting of purchasing of materials and equipment needed in execution of the project, training and capacity building of the workers (people of IP Communities in Sitio Haduan), students and selected staff and the implementation of the projects respectively.</p>
Target SDGs		<p>The collaborative effort and partnership of the Office of the CCRI and Kayantabe with the aid of Mabalacat City</p>

	<p>Government Unit covers 4 SDGs mainly: SDG No. 15(Protecting Life on Land), SDG No. 13 (Climate Action), SDG No. 8 (Decent Work and Economic Growth) and SDG No. 17 (Partnerships for Goals). The mentioned sustainable development goals are aligned on general objectives and purpose of this program. Through this program, biodiversity loss will be gradually eradicated and natural resources will be preserved through different conservation efforts which is a great way to address the issues regarding unsustainable consumption patterns of growing population and issues on climate change which greatly affect the people’s way of life. Aside from the environmental aspect, this project envisions to help the indigenous people in terms of economic aspect as it provides the people of Haduan a stable financial income.</p> <p>Moreover, the different activities of this program also cover the SDG on affordable and clean energy which visualizes the full access to affordable, reliable, sustainable and modern energy for all. The implementation and execution of the various projects, the IP communities of Haduan City will achieve a healthier environment. As far as the SDG is concerned, this program will provide a clean energy like clean to access to water to the beneficiaries as daily part of life and means of survival.</p> <p>Aside from the mentioned SDGs, the most important goal reflected on this program is Partnership for Goals which is evident through the collaboration of government agencies such as the Local Government Unit, DOST and two organizations of this institution. This collaborative effort strengthens the connections of the different organizations which make it more possible to achieve the target goals and promote trading between the partner agencies as it reaches the market which is beneficial to all.</p>
Key points	<p>Implementing this program proposal summarizes main key points aligned to the SDGs mentioned. This key point includes:</p> <ul style="list-style-type: none"> • Introduction of Balakat trees which serves as one of the footprints to preserve and conserve the natural resources and as a response to the increasing environmental issues and challenges in the community. • Establishment of Balakat Sanctuary which does not only promotes and highlights the eco-tourism of the community but ensures the full access of the IP communities to renewable energy sources and clean water to sustain a healthy environment and safe place to its people.

	<ul style="list-style-type: none"> Establishment of Hiking Trail which boosts the tourism potential of Haduan falls with railings and eco-friendly shed as to develop source of income to the community especially to the tour guides; and Introduction and commercializing of Balakat tea that expands the partnership of different organization as they earn profit and provides employment to the men and women of IP communities to achieve a stable financial income. It also empowers the women by involving their participation in the livelihood aspect of this project.
Differences from traditional approaches	Stating the goals and objectives of this program makes it clear why this must be implemented and executed. Not only because it is beneficial to the people and organizations but because it promotes growth and development in the community and environment. As offices assigned to Community Research and Innovation, what makes this program different from traditional approaches is it seen in literature known as research transformed into an innovative product designed to help the community and create a new idea and technological product to be introduced in the market.
Doing	
Launch date	The launching date of the program is dated on September 2021. (See Appendix A.D)
Responsible organization	Mabalacat City College, Local Government Unit and Department of Science and Technology
Progress as of today	As part of the enforcement of the program, the production phase is continuously administered by the propagation, production and maintenance of the Balakat trees, preparing the community and establish a core in the community group that will the counter part in the project. And most importantly, the production of tea is ongoing. (See Appendix Z)
Problems in implementation	Issues and problems in a program are inevitable and affects the progress of the program. One of the major problems that the proponents experienced is some of the Balakat seedlings are dying du to certain factors like increased heat which led to decreasing number of trees which can possibly decelerate the expected amount of leaves to be processed as tea.
Approaches to solve the problems	Concerning the problem experienced, the organizations together with the farmers and employees ensures that proper maintenance and care is provided. This is possible through the proper administration of organic farming and other natural processes.
Completion date, if completed	The project is expected to be accomplished after 8 years starting from 2021. Attached is the project timeline

	covering the 8 years with specific activities and corresponding timeframes.
Seeing	
Impacts on students	The research that will be produced in this project will serve as the project's educational benefits to students and health researchers about the herbal and medicinal components of the Balakat tree.
Impacts on Instructors and Institute	Through these parties, awareness of the people in the community is possible by introducing the importance and benefits of Balakat trees to the community in various sectors and aspects such as culture, environment, agriculture, and economics.
Responses from industry/market	This introduction of new products will urge and encourage the market to trade with the implementing agencies and organizations to earn more profit and increase their sales, especially nowadays that people are health-conscious.
Responses from government	This program is highly supported by the government specifically the DOST and City Agriculture Office as they are one in mission and vision of protecting the natural resources of the community, preserving its rich history through a transformation of research into products, and boosting the tourism and economy of the people of Haduan as an indigenous community. (See Appendix A)
Measurable output	<p>To make the project feasible, attainable and produce measurable expected outcomes, the eight years of execution and action are divided into phases per year. At the beginning part of the project, planning was possible through initial meetings of all the organizations and partner agencies involved in the drafting of the proposed project.</p> <p>A year after, the execution continued greenhouse was established for the propagation of Balakat trees and herbal medicinal plants. This capacitated at least 20 farmers of the local community in organic farming practices. This process was followed by the establishment of Balakat Sanctuary as a part of eco-tourism in Sitio Haduan. And established hiking trail to minimize associated risks and hazards for potential tourists.</p> <p>The project continued when an average of 500 were sustained and propagated every year and at least 3 employment was generated to the local community in harvesting the Balakat seeds to be utilized for continual propagation. In addition, this led to advantages for the farmers as it decreased their production cost in the community as it increased the production output of the farmers by 15% in comparison to their and the income of the farmers accelerated to 20% in comparison to their</p>

	<p>previous harvests. Meanwhile, there were people hired to build the sanctuary and compost area and the hiring of maintenance personnel for the facility occurred.</p> <p>As of the present year, a minimum of 250 trees were transplanted initially in Sitio Haduan. Aside from that, Balakat Cafe was established as it will serve as the processing facility of processing Balakat leaves into tea and generated at least 5 with 2 employment that caters to women empowerment in the local community in harvesting Balakat leaves for the production of Balakat tea. In the same year, community awareness was possible by the introduction of Balakat tea to the community and its health benefits.</p> <p>In the 4 consecutive years, the program is expected to be continuously implemented as it adheres to its mission and vision of promoting and boosting the community's environmental, economic and tourism aspect through propagation of Balakat trees, establishment of Balakat Sanctuary and Processing and Marketing of Balakat Tea. This program is expected to provide educational benefits as it raises the awareness of the members of the community, and its tourists.</p> <p>In general, these proposed activities highlight the different benefits to the community and its people in various aspects. In terms of environmental aspect, the programs contribute to the climate change adaptation efforts of Sitio Haduan as a community that is highly dependent on natural resources. Speaking of economic aspect, this program does not only boost the agricultural skills of the farmers but also empower the women as part of the society by providing livelihood to the IP women of Sitio Haduan and contribute to the economic development of the locality. With regards to educational aspect, the establishment of Saanctuary is expected to provide educational benefits to its visitors as an eco-tourism destination by raising their awareness of the importance and benefits of preservation and propagation of Balakat Trees. Aside from that, the Balakat Tea and its health benefits will serve as a project geared towards improved health conditions and the research that will be produced in this project will serve as the project' educational benefits to students and health researchers about the herbal and medicinal components of the Balakat tree for later use in their further studies.</p>
Cost-benefit analysis for effectiveness	
Future Planning	
Where does the project go from here?	This proposed project is expected to produce high-quality tea and to be introduced into different markets

	like hotels and coffee shops. Later, the Balakat Tea is expected to be approved by the Food and Drug Administration and commercialized on sectors and industries.
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Miscellaneous	
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Exhibits, pictures, diagrams, etc.	
Reports, mimeos, monographs, books, etc.	
Others which may help explain the project	