

**Documentation of Philippine traditional knowledge and practices
on health and development of traditional knowledge digital library
on health: the Ayta community of Alabat Island, Quezon**

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BACKGROUND

Significance

The Philippines is one of the richest countries in terms of cultural diversity, as well as of biodiversity. There are more than 185 ethnolinguistic groups according to the Summer Institute of Linguistics even as the Komosyon ng Wikang Filipino considers that we have 125 languages. There are 110 indigenous peoples' groups in the country as per the National Commission on Indigenous Peoples, and 13 Bangsamoro groups according to the Commission on Muslim Filipinos.

Each indigenous or local community possesses a unique body of traditional knowledge and practices that has been developed throughout centuries of use and passed down to succeeding generations. This information base continuously evolves, adapting to changes in a community's culture and environment. It also includes the peoples' wealth of knowledge on health, illness, and healing. The communities, characteristically living in the mountains or their fringes, have depended mostly on plants and other natural products from the forest to prevent or treat illnesses. Environmental degradation and the onslaught of lowland mainstream cultures, however, now threaten their traditions.

The cultural wealth of the people is inextricably tied to the rich biodiversity of their ancestral lands. The loss of biodiversity to rampant logging, mining, and other environmental atrocities undoubtedly has an immense impact on the cultural wealth of our indigenous peoples and local communities. Lifestyle change as a result of displacement from their ancestral domains and lack of supportive mechanisms to pass on the knowledge are leading to the discontinuance of their traditional practices.

A systematic and comprehensive endeavor to assist communities in documenting and upholding their traditions, in particular healing traditions in this project, may be valuable in confronting this situation.

Another threat faced by indigenous and local communities' is biopiracy or the misappropriation of their knowledge and resources. In 1985, the estimated market value of plant-based medicines sold in developed countries already reached \$43 billion but less than 1 percent of the profits were returned to the knowledge owners. The global herbal medicine market size was valued at USD 71.19 billion in 2016 and is expected to exhibit profitable growth over the forecast period.

The increase is attributed to the increasing preference of consumers towards traditional medicines (Ayurveda, Unani and Traditional Chinese Medicine) which are believed not to cause overdose toxicity and have fewer side effects.

<https://www.hexaresearch.com/research-report/global-herbal-medicine-market/>

Pharmaceutical, food, and cosmetic industries benefit from the wealth of their knowledge and environment yet only a few have acted upon the loss of the traditional knowledge, practices, and biological resources of the communities. Facilitating community documentation may then be a method to uphold the rights of the knowledge owners as they are able to manage gathered data, and assert their right to free and prior informed consent, proper acknowledgement, and equitable sharing of benefits in the utilization of their knowledge.

In this project, communities who will be trained in documenting their knowledge and practices may opt to:

- Keep certain data, which are considered sacred, within the community,
- Share selected data with a research institution with set mechanisms to protect community-owned knowledge, (this set of data will not be disclosed without prior informed consent of the community), and/or
- Share selected information which may be publicly disclosed and inputted in a Traditional Knowledge Digital Library (TKDL), similar to the TKDL model of India, as well as allow the publication of the data in scientific and/or popular publications (with the community as co-authors). The TKDL databases and website are managed by the University of the Philippines Manila with assistance from the Philippine Council for Health Research and Development (PCHRD) and the Philippine Institute of Traditional and Alternative Health Care.

The said national electronic database is a modern method of protecting our cultural heritage as old and new documentation on traditional knowledge on health and healing are gathered and encoded into a digital format. Should traditional knowledge accessed in the TKDL be used for further scientific studies, the individual or agency will be linked to the knowledge-owner community to whom they should secure free and prior informed consent. Eventual product development shall call for discussions and agreements on appropriate access and equitable benefit sharing.

Literature review

For this particular project, we documented the traditional knowledge and practices on health of the Alabat Ayta. The Summer Institute of Linguistics in its website Ethnologue considers the Alabat Ayta is considered as one of the 35 Ayta ethnolinguistic groups in the country. These ethnolinguistic groups of Filipinos are variedly termed by the Summer Institute of Linguistics as Ayta, Agta, Alta, Arta, Atta, and Remontado in Luzon; Ata and Ati in the Visayas; and Ata-Manobo in Mindanao. Other terms used to refer to the groups of “kulot” people are Ebukid, Iraya, Batak, and Dumagat.

Four of the 35 languages are considered extinct, ie, Agta Villaviciosa, an Atta group in Cagayan, Tayabas Ayta, and Katabagan. Others including the Alabat Ayta are endangered to be extinct.

Previous work on the Alabat Ayta is the documentation by Castro of the medicinal plants used by 3 Ayta groups in Quezon, ie, in Tayabas, Alabat, and Lopez.

Objectives

This project is part of a nationwide multi-institutional initiative. The objectives of this particular project include:

1. To document the traditional knowledge and practices on health, disease and healing of the *Alabat Ayta*
2. To preserve the traditional knowledge and practices in a digital library form represented in www.tkdiph.com
3. To translate the outputs of the research into activities/ initiatives/ papers that will benefit the community and other interested sectors

Conceptual framework

The project *Documentation of Philippine traditional knowledge and practices on health and development of traditional knowledge digital library on health* was conceived in recognition of the wealth of traditional knowledge on health held by our indigenous and local communities and in response to its loss due to numerous factors. The program aims not only to establish an inventory to preserve the country's national patrimony on healing but seeks to uphold each individual and/ or community's right to the healing knowledge they and their forbearers have cultivated.

The program recognizes that the communities' wealth of knowledge in herbal medicine is essential in drug discovery and development, and in the realization of a national health care delivery system accessible to all Filipinos. However, the knowledge-owners, commonly from disadvantaged communities, should rightly benefit from the developments that would have not come about without their initial contribution. As asserted by the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous People, "...Indigenous peoples are capable of managing their traditional knowledge themselves, but are willing to offer it to all humanity provided their fundamental rights to define and control this knowledge are protected."

In acknowledgement of the communities' rights to their knowledge, this research program aims to carry out a community-based participatory approach, wherein the communities are actively and effectively involved in all the steps of the documentation and protection of their cultural heritage on health. Their part, among others, is integral in defining the cultural appropriateness of the research: from assessing the project objectives and data-gathering methods and instruments to deciding what information may be inputted in the digital library and what will be kept confidential.

Mutual learning rather than top-down training will be espoused. Discussions regarding traditional knowledge and resource rights will be conducted so the community may develop strategies to ensure appropriate ownership, acknowledgement, access, and benefit sharing when dealing with researchers. Biodiversity conservation including mechanisms for the sustainable management of resources may also be tackled with the community.

METHODOLOGY

Pre-documentation stage

Approval of research protocol was sought from the UP Manila Research Ethics Board (UPMREB). This board abides by the ethical guidelines on research on traditional medicine and indigenous peoples as provided by the national guidelines prepared by the Philippine Council for Health Research and Development (PCHRD), as well as the provisions of the Indigenous Peoples' Rights Act (IPRA) and the circulars of the National Commission on Indigenous Peoples (NCIP) when reviewing the protocol.

The project leader declared no conflict of interest in any form with the sponsor Philippine Council for Health Research and Development, the research partners, or the study community.

Formation, orientation, and training of the research team

The research project team was comprised of a project leader, a co-project leader, and 2 research assistants. The research assistants were trained regarding the research protocol, including the use of research instruments, community participatory research as an approach, facilitating community research and conducting workshops on traditional knowledge rights and biodiversity conservation. Research assistants were informed regarding the state and plight of indigenous peoples and their practices, indigenous peoples' rights (concerning their land, biological and genetic resources, and cultural and intellectual property), and the best practices in working ethically with the communities. A pool of consultants and resource persons supported the research team; their expertises included anthropology, linguistics, taxonomy, botany/ biology, ethnopharmacology, information management, and community education. The responsibilities of the members of the research team were defined, thus:

The project leader's responsibilities included the following:

- Conduct preliminary visits to prospective communities
- Facilitate consultation with community regarding the project
- Orient researchers in conducting research
- Train researchers in the use of data-gathering instruments and in research inquiry
- Monitor the research team in the community
- Ensure that the research upholds the community's rights to their knowledge and practices
- Ensure that the research abides by the community's customary laws and practices
- Ensure that the research abides by the Code of Ethics
- Ensure that the IP rights of the community who are the traditional knowledge owners are protected (as per IPRA) in the access and use of the digital library
- Provide guidance in writing the technical report and other research outputs
- Edit and submit the final technical report
- Act as disbursing officer
- Submit the audited financial statement

Percentage of work time devoted to the project was 20%.

The co-project leader 's responsibilities included the following:

- Assist the project leader in all the above-mentioned tasks
- Ensure the quality of the data gathered by the research assistants
- Coordinate the monitoring of the project by the funding agency
- Prepare outputs emanating from the research, where applicable, such as policy briefs, scientific publications, poster presentations, popular articles, health education materials, and the like
- Coordinate with the database manager and website manager of the national TKDL program
- Ensure the quality of the information submitted to the www.tkdiph.com website

Percentage of work time devoted to the project was 20%.

The social science research assistant (Science Research Specialist I)'s responsibilities included the following!:

- Facilitate participatory approach in the documentation
- Facilitate community research on social aspect of health and healing
- Guide community in using ethnographic research instruments
- Facilitate discussion regarding traditional knowledge and resource rights
- Facilitate in creating culture-sensitive health education materials
- Write ethnographic component of the technical report
- Prepare draft outputs emanating from the research, where applicable, such as policy briefs, scientific publications, poster presentations, popular articles, health education materials, and the like

Percentage of work time devoted to the project was 100%.

The natural science research assistant (Science Research Specialist I)'s responsibilities included the following:

- Facilitate community research on medicinal plants
- Guide community in using ethnopharmacological research instruments
- Facilitate herbarium collection
- Facilitate discussion on biodiversity conservation
- Facilitate in creating culture-sensitive health education materials
- Write ethnopharmacological component of the technical report
- Prepare draft outputs emanating from the research, where applicable, such as policy briefs, scientific publications, poster presentations, popular articles, health education materials, and the like

Percentage of work time devoted to the project was 100%.

The consultants's responsibilities included the following:

- Orient the research team on the component of the research appropriate to their expertise (in anthropology, linguistics, taxonomy, botany/ biology, ethnopharmacology, information management, and community education)
- Provide advice on matters brought up by the research team during the implementation of the project
- Review the draft technical report

Linking with research partners

Partnerships among stakeholders, where available, such as local state universities and colleges, local government, and nongovernment agencies were formed. To build the capacity of regional and provincial institutions in conducting quality and ethical research, local individuals were planned in the hiring of research assistants, but no local applicant was available. Interested individuals from the study communities were encouraged to train in documenting their traditions. The tribal chieftain's daughter was very interested in research and was involved, together with her husband.

Selection of study communities

The selection of the study communities was based from the following criteria:

- The reputed richness of healing traditions (presence of traditional healers),
- The richness of the biodiversity of the natural domain of the people,
- The expressed willingness and capacity of the community to participate, and
- The peace and order situation in the community.

Selection was based from consultation with researchers and leaders from the academe (Southern Luzon State University), government sector (National Commission on Indigenous Peoples, Department of Environment and Natural Resources, local government units), civil society organizations, and the community.

Social preparation

Consensus building with community and integrating their recommendations

The project was introduced in a community consultation.

As defined in the Republic Act 8371 (IPRA), Free and Prior Informed Consent shall mean “the consensus of all members of the Indigenous Cultural Communities/ Indigenous Peoples to be determined in accordance with their respective customary laws and practices, free from any external manipulation, interference and coercion, and obtained after fully disclosing the intent and scope of an activity, in a language and process understandable to the community” (IPRA Rule II. Section 1.k).

Communal decision-making was to be observed in securing the consent of the community. The community leaders, the tribal chieftain and barangay captain and his council, were met to discuss their concerns and thoughts regarding the study.

The FPIC process followed the NCIP AO 3 of 2012. A work and financial plan was to be prepared by the provincial office which included the activities and expenses incurred during the FPIC process (eg, food and travel expenses). A team from the provincial office was to conduct field-based investigation (FBI). They were to schedule a series of community assembly. The Certification for Precondition was to be given by the NCIP upon the completion of the process.

In the consultation with the community (council of elders/ leaders), the research team was to fully notify them regarding the project objectives, significance, methods, desired output, and risks and benefits so that they can make an informed decision regarding the project.

“The ICCs/IPs shall within their communities, determine for themselves policies, development programs, projects, and plans to meet their identified priority needs and concerns” (IPRA Rule IV. Part III. Section 3).

The research team was to listen to the communities’ ideas and recommendations as to how each aspect of the project may become more culturally appropriate to them, how it shall respond to their felt needs and concerns, and protect their culture and environment/ancestral domain.

The research team was not encourage cash payments; instead in kind tokens were given to participants as an exchange to lost economic opportunities. Food was usually given the participants as form of token. At times notebooks, papers, and pencils were given to children and young adults who were keen on writing and drawing.

Active participation was not to be limited to the leaders but also to other community members. The researchers were briefed regarding the customary laws that they must adhere to throughout the project.

An informed consent form relevant to the community’s cultural traditions and customary laws was to be drafted. It was to indicate the objectives and outputs agreed upon, significance of the project, approved methods of data gathering, type and number of informants, confidentiality agreements, management of output/data, protection of data, rights/ownership and responsibilities to data, community’s access to data, project benefits and harm, conditions in publication, and in photo/ audio recording.

The community (ie, IP)was considered research partners. The institutional proponent partner presented this research proposal to the community for finalization. The community was involved in the implementation of the project through representative/s selected by the community. The study report was only to be finalized after due validation by the community.

Preparation of the Memorandum of Agreement and obtaining the Free and Prior Informed Consent

The free and prior informed consent (FPIC) of the study community and the NCIP clearance were to be obtained following the revised guidelines set by the NCIP in 2012.

The indigenous knowledge systems and practices obtained from the documentation were to be kept in form (printed and digitized) as agreed by the community in the FPIC. Likewise, extent of disclosure of the indigenous knowledge systems and practices (IKSPs) data were to be expressed in the FPIC, which is to be protected by the proponents. The proponents in the design of the said digital library guaranteed such protection of data in the traditional knowledge digital library.

The use of data by other parties not covered in the above FPIC was to be governed by a separate FPIC from the community.

The present study covered only the documentation of the indigenous knowledge systems and practices (IKSPs) and the digitization of such. The FPIC was to be limited to the extent of disclosure of the said knowledge and practices, thus the digital library may include only general statements of certain IKSPs and note that readers of the library who may wish to have further access to the details of the data should go to the community and obtain their FPIC for their particular intent.

In addition to the FPIC, individual consents for individual interviews were also obtained.

The following guidelines, inter alia, are hereby adopted to safeguard the rights of IPs to their indigenous knowledge systems and practices:

- The ICCs/IPs have the right to regulate the entry of researchers into their ancestral domains or territories. Researchers, agents, or representatives and other like entities shall secure the free and prior informed consent of the ICCs/IPs before access to indigenous peoples and resources could be allowed;
- A written agreement shall be entered into with the ICCs/IPs concerned regarding the research, including its purpose, design, and expected outputs” (IPRA Rule VI. Section 15.)
- “The FPIC is given by the concerned ICCs/IPs upon the signing of the Memorandum of Agreement (MOA) containing the conditions/ requirements, benefits as well as penalties of agreeing parties as basis for the consent” (NCIP AO No. 01 Series of 2006. Part 1. Section 5.a.).

A MOA was to be drawn up with the community. Similar to the free and prior informed consent, each major undertaking required a separate agreement. This document was to proclaim the conditions agreed upon in carrying out the research and management of the project outputs. It was to indicate compensation for damages, and sanctions in the event of commission of prohibited acts while conducting the research and in the use of the output. Ownership rights in data output and compensation/ royalties in researches and publications (if applicable) were also to be included.

The NCIP was to ensure that the rights of the IPs will be addressed. The community leader, usually the chieftain or barangay captain, was to sign the memorandum.

Consultations with the community were continuous throughout the project.

All necessary legal requirements were followed in accordance to the existing framework and policy measures, as being implemented by the community, NCIP, DENR, and other agencies. Respect for local practices and beliefs were observed.

Each step in consulting with the community was documented (photograph, audio/ video recording, copies of MOA, minutes of discussions) as evidence of abiding by the community and research protocol. Taking of photos and recording had consent of the community.

There has been a risk of the community being taken advantage of by certain unscrupulous parties but the NCIP, the research team, and other partners were to be active in creating awareness among the indigenous peoples about their rights.

The specific communities involved in the project were to be educated on their rights as well as on processes that will be undertaken. This was to be carried out through several meetings and discussions with the community and the representatives of the National Commission on Indigenous Peoples (NCIP) during the process of obtaining the free and prior informed consent (FPIC).

One of the duties and responsibilities of NCIP is to coordinate and oversee the proper implementation of projects concerning the IPs/ICCs. The NCIP addresses the rights and cultural norms of the IP community. The NCIP rule is to build a harmonious relationship between the research team and the community.

As provided in the MOA, an agreed Work and Financial Plan was to be prepared before the FPIC process was started. This plan was to cover the activity and timeline. The expenses approved were to be spent following government accounting and auditing procedures.

In many indigenous communities the given culture norm is that the individual autonomy is subsumed under collective autonomy (eg, the council of elders makes decisions for the community). In addition to the consents of the key informants (eg, traditional healers) and participants in the focus group discussions, consent was to be taken for photo/audio documentation.

Free and prior informed consent (FPIC)

Representations had been made with the NCIP regional office (EDSA cor P. Tuazon, QC), provincial office (Bgy Batikan, Infanta, Quezon), and the Community Service Center in Lucena City.

Community capacity building in research

Community members who are keen on research were identified and invited to be research partners. They were oriented on the significance, objectives, and methodologies of the research, as agreed with the community. They were oriented on the biological and cultural diversity of the community and the importance of conservation and documentation.

Documentation stage

Documentation of traditional knowledge and practices on health, illness, and healing (data gathering)

Through community participatory research approach and the methodologies described below, the following were documented: the physical attributes of the study community (access, topography, climate, and the like), the demography, and the ethnography. Likewise the beliefs, knowledge, and practices on health, illness, and healing were documented. The project espouses the definition of traditional medicine as “the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the

prevention, diagnosis, improvement or treatment of physical and mental illness” (WHO/EDM/Traditional Medicine/Definitions, modified: 30 October 2001).

The research team documented the community’s concept of health and wellbeing, illness, and healing. These included the illnesses that the community experience and how they respond to each one, including the use of herbal medicines and other modalities. Furthermore, the following were documented: etiology of illnesses: what a healer is and the different types of healers and healing methods; what they think of western or biomedical healing practices, if they utilize these and why; and the stories and experiences of healers and caregivers (mothers, fathers, grandparents) in providing health care.

The following methods for gathering data were consulted with the community and adjusted to be culturally appropriate:

Free and prior informed consent

Each community member to be interviewed or invited to join a focus group discussion was to be fully informed and consulted by the research assistant regarding the conditions of sharing data on traditional knowledge and practices.

Interviews

The research team scheduled meetings with a healers or caregivers where they may share their knowledge and experiences regarding sustaining health and/or management of illnesses. Through inquiry, the following were noted: their ideas and concepts of health, illness, and healing, and what the community’s current health status is. Interviews were either formal or informal.

Key informant interviews were conducted with the actively practicing traditional healers in the community. The objectives of the research, the methodology, and outputs of the research were explained to the individual. Informed consent was obtained.

Snowball sampling or referral sampling technique was applied in this study.

Focus group discussion (FGD)

The research team scheduled discussion with specific groups (healers, mothers, or family healthcare providers) wherein they tackled specific topics. The groups validated the causes and symptoms of specific illnesses. They also agreed upon what the most effective treatments to specific illnesses are and what is the best preparation for particular cures.

There were to be 8-12 participants in each focus group discussion. Participants were to consist of mothers and community elders who act as family healthcare providers. The objectives, methodology, and outputs of the study were to be explained. A facilitator will conduct the focus group discussion and a recorder will document the proceedings. Audio, video, and/or photo documentation were done with consent of the participants. The FGD were conducted for 2 hours.

Participant observation/ immersion in the community

Researchers immersed in the community. By living with the community, the researchers directly observed how community members maintain their health and manage illnesses in different situations. Through observation, one learned of traditional health knowledge and practices that were explained by community members during interviews and FGDs.

Any audio/ video recording and photodocumentation was only done with the consent of community member/s.

The researchers acted appropriately to the culture of the community. They also participated in the community activities upon the permission of the community members.

Any audio/ video recording and photodocumentation was only be done with the consent of community member/s.

The socio-cultural background of the community was observed. The family structure, gender relationships, marriage, and childbearing were discussed during the interview with the community members. Likewise, socio-political issues in the community were discussed during interviews. This information is vital in establishing a background on the community's view on cultural and political issues that were to be included in the final report of the study. The researchers were to remain unbiased on their opinions of community members to avoid conflict with the community.

Walk-through within the natural domain

A series of walk-through with the healers within the community and the forest within the domain of the community were conducted. The healers identified the plants that they use in these walk-throughs. These also served as opportunity to take photos of the plants, and for herbarium collection, if applicable.

Survey

Survey was to be conducted to determine the most common medicinal plants used by the community, and for which indications. Likewise, the health seeking behavior of the community would be determined.

Encoding of data

Data were to be encoded using the templates given in the *Annexes*. The same templates were used by similar completed and ongoing projects in other parts of the Philippines.

Identification of plants and other natural products

Community members were trained in making a herbarium. Herbarium specimens are important for identifying the plants by the taxonomist. Plants valuable for healing practices

were to be collected and preserved, with the consent of the community. The herbarium may help the younger generation become familiar with the medicinal plants utilized by their community, especially specimen difficult to obtain. The herbarium collection shall be a part of the community's medicinal plant inventory.

With a signed MOA and prior informed consent, community members were to accompany the researchers in gathering medicinal plants available in their environment. With the community's permission, plants were to be photographed in their natural habit, then collected and preserved. Healers/elders may keep the herbarium and show the plants to the youth and explain their value to the community.

With their consent, herbarium copy may be provided to the National Museum for safekeeping. Any audio/video recording and photodocumentation of the herbarium specimen were only to be done with the consent of community member/s.

During the workshops and meetings on traditional knowledge and biodiversity conservation which were to be conducted among the community, the following were to be discussed: ways in which the community may further the protection of their traditional knowledge and conservation of their natural domain, and information on laws proclaiming their rights to their knowledge and ancestral lands.

Assessment and validation of gathered data

Community members were to assess the correctness of the data gathered to avoid misrepresentation and to ensure an accurate account of the community's traditions and practices. The most commonly used plants and most commonly cited indications were to be discussed.

Data obtained from interviews, focus group discussions, and participant's observation after having been transcribed and synthesized were to be presented to the community for validation.

Selection of information for the digital library

The community were to select the information which may be publicly disclosed in the digital library. The indigenous knowledge systems (IKS) are protected by IPRA and IPO Law. The informants, upon signing the consent, have the right to choose the data that will be disclosed publicly.

Data with consent to publish in the internet and written publication can be accessed by the community and other internet users. Sensitive data shall be made private and only the community and the research institution have the access to it.

The digital library is an open access database, which does not require membership fee to access the data.

Preparation of technical report and other outputs

A report on the documentation was to be prepared by the research team in English and in a language that is understood by the community, ie, Tagalog. Proper acknowledgement of authors and knowledge-owners was to be ensured. With the consent of the community, the research assistants encoded the data, ensuring safety and confidentiality of the data. The hard copy of the encoded documentation was to be presented to the community and with their consent a copy was to be provided to partner institutions for safekeeping.

Monitoring

The community, especially members actively participating in the documentation, were to ensure that each step of the project respects their inherent rights and rights to their knowledge, practices, and resources.

Post-documentation stage

Developing culture-sensitive education materials for the study communities

Culture-sensitive health education materials on safe and beneficial healthcare were developed based on the knowledge, practices, and experiences the communities shared regarding health and healing. These were adapted to the cultural practices and health situation of specific communities so that they may be useful in maintaining health and in the prevention of illnesses among the indigenous communities.

Topics included: endemic fruits and vegetables, traditional healing practices for common ailments (fever, cough, diarrhea).

Likewise, the following materials were to be developed with and for the community:

Photo book of the community's medicinal plants

Digital photo album (electronic registry of plants)

Children's books for literacy program

Centralization and assessment of data

The data gathered were centralized and assessed through the national program jointly supported by PITAHC and PCHRD in collaboration UP Manila. The information were inputted in digitized form in the traditional knowledge digital library (TKDL). Proper acknowledgement of authors and knowledge owners was ensured. PITAHC, PCHRD, and UP Manila shall be mindful of the responsibility in protecting the traditional knowledge shared by the communities.

Conditions must be agreed upon and written in a MOA and the community will sign the free and prior informed consent form.

The following guidelines, inter alia, are hereby adopted to safeguard the rights of IPs, to their indigenous knowledge systems and practices:

- A written agreement shall be entered into with the ICCs/IPs concerned regarding the research, including its purpose, design, and expected outputs;
- All data provided by the indigenous peoples shall be acknowledged in whatever writings, publications, or journals authored or produced as a result of such research. The indigenous peoples will be definitively named as sources in all such papers;
- Copies of the outputs of all such researches shall be freely provided the ICC/IP community; and
- The ICC/IP community concerned shall be entitled to royalty from the income derived from any of the researches conducted and resulting publications (IPRA Rule VI. Section 15).

The possibility of benefit sharing from development of products that may emanate from the traditional knowledge will be pursued as provided for in the IPRA. Informants of the traditional knowledge stated in the databases, upon their consent - should some interested party (eg. researchers) wish to pursue further studies based from the traditional knowledge - should dialogue with the owner of traditional knowledge regarding the consent and possible benefit sharing. A memorandum that the research institution will forge with the traditional knowledge community should cover this.

Implementation of the digital library

A database and website administrator of the national program managed the data inputted in the digital library, including inputting corrections and additional or new information. The administrator managed both the databases and website for traditional knowledge represented in www.tkdiph.com.

This project contributed inputs into the databases and website.

Feedback to community

The community were to be given feedback. The education materials were to be turned over to the community, as well as the technical report.

Ensuring community's rights in the implementation of the digital library

Should traditional knowledge accessed in the TKDL be used for research towards product development, the individual or agency will be linked to the knowledge-owner community to whom they should secure free and prior informed consent, and upon their agreement, appropriate access and benefit-sharing will be arranged.

The digital library shall be readily available to the communities should they need it.

The privacy and confidentiality of demographic data are ensured and available only to research team, except for the informant's name and address, and for the materia medica data where the said informant gave her/his consent.

Promotion of communities' rights to their traditional knowledge, practices, and resources

Information regarding the communities' rights to their traditional knowledge in health and healing shall be made available in the website/ digital library.

Promoting the use of relevant information gathered

Health workers in indigenous communities may use the information to enhance their delivery of health service in the communities, eg, making their services culture-sensitive.

Environment advocates can use the information to emphasize the rich biodiversity of these communities in their campaign to conserve the forests, or to rationally manage the forest resources.

Cultural workers can use the information in their advocacy, promotion, and protection of our cultural heritage.

Filipino researchers may wish to pursue scientific studies to determine efficacy and safety of medicinal plants or other healing modalities even as they must always ask permission from the community.

Policy makers may use the information to establish a sui generis system of protecting indigenous and local communities' traditional knowledge and practices.

RESULTS

The research site

Research was conducted among the Alabat Ayta people in Alabat island, Quezon. The island consists of 3 towns (Perez, Alabat, and Quezon). It may be reached from the main island of Luzon through boat from Atimonan, Quezon. It is about 1 hour by fast craft from the port of Atimonan to the port of Alabat. There are other ports in the island – in Perez and in Quezon town.

The Alabat Ayta people are found in the following communities:

In Alabat town:

- Barangay Bacong, the main Ayta settlement in the island where Ayta Chieftain Amy Jugueta lives. (Sitios Makalbang, Boong, Langgas)
- Barangay Villa Norte
- Barangay Villa Esperanza
- Barangay Pambilan
- Barangay Villa Jesus Este
- Barangay Buenavista

The people may also be found in other villages in Alabat island especially when there is available means of livelihood. Some families are currently settled in Barangay Pinagtubigan Este (Perez town).

The Ayta settle in the foot of Mt Mabilog and Mt Kamagong. Mt Mabilog is a protected area and is considered the watershed. The Ayta may cross the mountain from Barangay Bacong to meet their relatives and friends in Barangay Villa Norte, and vice versa.

The Alabat Ayta people

The Alabat Ayta people trace their immediate roots to the Aytas in Lopez, Quezon, particularly in Barangay Villa Espina. Barangay Villa Espina is considered the center of the Ayta culture in Bondoc peninsula (current chieftain is Ros Datario). It is said that the same language is spoken in Guinayangan, Quezon and in Labo and Sta Elena in Camarines Norte.

According to the old people in Alabat town, the Ayta first came to the island during the second world war. The Ayta come and go, depending on the livelihood. Some families decided to stay, such as those of the chieftain's.

The Alabat Ayta is differentiated linguistically from the Tayabas Ayta (whose language is now extinct) and the Katabaga/Katabagan in Mulanay and other parts of the Bondoc peninsula in Quezon. Cabihog is an alternative term used for Ayta in Camarines Norte.

The Ayta Alabat people consider Mt Kamagong and Mount Mabilog as sources of their medicinal plants as well as sources of food and livelihood. Presently majority of the people derive their livelihood from sources outside of the 2 mountain systems, ie, they work as agricultural workers, construction workers, and household helpers.

The number of Ayta in the island varies with the season of livelihood. As of 2016 February, according to the chieftain, the number of families in the island are as follows:

- Bacong 14
- Angeles 3
- Villa Jesus Este 3
- Pambilan Norte 2
- Buena Vista (cannot be recalled by the chieftain)
- Villa Norte 40

The chieftain can recall only 8 speakers of Ayta or Inayta in Alabat. She related that similar language is spoken in Lopez, Quezon (mostly in Bgy Villa Espina), and in Sta Elena and Labo in Camarines Norte.

Geography

Barangay Bacong, which is the major settlement of the Alabat Ayta, is bounded in the east by Bacong River whose wellspring is from Mt Mabilog. Bgy Villa Norte is found to the north of Mt Mabilog. Mt Kamagong serves as wellspring for Tumiis. Kamagong river drains to Villa Norte. Langgas river also traces its wellspring from Mt Kamagong.

Illnesses among the Alabat Ayta people, their causes, and management

Table 1. Most common culture-bound terms for illnesses, their causes, recognition, and management

Cause	Illness/es	Recognition	Management
Panahon na tag-init (Illnesses are brought by hot weather, especially during tagsangit [very hot weather]. The illnesses occur especially if heat is alternated with cold, as when being exposed to hot day then being exposed to sereno [cold in the evening])	Sipon at ubo (Cough and colds)	The illnesses occur during the hot season.	>Medicinal plants are used.
Panahon na tag-ulan. During the rainy season, there is change in the water because of things that are decaying (nabubulok).	Tae at suka (Diarrhea and vomiting)	The illnesses occur during the rainy season.	>Medicinal plants are used.
Singaw ng lupa	Kabag	This occurs after a rain on a hot day.	> Buga is applied, from betel or from lubigan.
Nanuno o nagalaw. There are two types of dwarves: white and black. The inagas (dwarf) lives in a spring with strong flow of water, such as those in Barangay Concepcion in Hondagua, Lopez. The rice fields are always wet because of the inagas who lives in the spring. The terms naapo o	Illnesses come in many forms: nawawala sa sarili , convulsions, fever, etc.	The patient may have recalled having urinated in some spot or having stepped over a mound.	> Suob using baletengdagat. Incense The nuno is afraid of the smoke from baletengdagat. The tree has black wood but the bark is white. The smoke from the suob is fragrant > Bulong using Latin incantations may also be used.

<i>namatanda</i> are also used.			
Taratara. This aswang takes the form of a pig and makes the rounds in the evening . it sucks the kalaghara (phlegm) of those with cough. It does not cause any illness.			
Nabalis. This is also known as <i>usog</i> and is caused by a person with strong energy.	*Sakit ng tiyan *Suka't tae *Hilo	The person or mother would have recalled that a person had been encountered on the way; and suddenly symptoms are felt.	>The one who caused the balis must be sought for his laway (saliva) to be applied onto the patient's belly, usually a child. >Plants may be used. Kakawate or balimbing leaves are used as haplas (gentle application) to the forehead and joints > Buga from betel chewing (<i>nganga</i>) may be applied onto the belly
Imbalance in heat/cold	Pasma sa pagod.	This is experienced after having been overworked (thus overheat) followed by cold. This could also be due to <i>natuyuan ng pawis</i> .	>Medicinal plants are used.
	Pasma sa gutom.	This is due to not eating on time.	
	Pasma sa mura.	This is due to eating young coconut meat when the stomach is empty	
Natural causes	Tuka ng ahas Tibo ng isda Kagat ng aso		>Medicinal plants are used.
Pinasok ng lamig. Lamig (cold) entered the body.	Pasma	This manifests as *Ponsada. Migrating pain throughout the	> Hilot (massage) shoulders, back , and chest.

		body *Headache	>Medicinal plants are used.
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Healers

Amy Jugueta

The chieftain, Amy Jugueta, is a known healer. She was in fact the most sought after traditional healer in the area. Her clientele included both the Ayta community and the Tagalog and other residents in the island of Alabat.

She is quite young for a chieftain (at 50 years) and has been chieftain for 2 years. Her predecessor was also a woman and was her relative and was also a healer. The Ayta leaders are mostly so recognized because of their healing skills. This may be also observed in other indigenous communities.

She learned her healing skills from her father and other relatives. Her husband, Adonis Alpay, also knows a lot about uses of plants in the forest having worked in the forests of Aurora. Amy also has incorporated the practices of the Tagalog community, as well as what she has heard from mass media in the use of some medicinal plants. Her experience as a healer and as a person has also been enhanced by her experience in the Bicol region where she made “layas” for 16 years. Her knowledge and practices on healing may have been influenced by many factors, but her foundational beliefs and skills may be traced to her ancestors where she learned by watching from her relative healers.

Her family is traced from Lopez, Quezon (where she was born). She came to the island, together with her folks from Lopez, to seek better economic opportunities.

She does not ask money for her services but would accept tokens such as food or materials for betel chewing (betel nut, betel leaf, tobacco, lime).

She has four children by Adonis. The eldest Juliet is keen on following the footsteps of her mother and was deeply interested in the activities of the researchers. She is gathering materials (information on the flora of Mt Mabilog) which she says she will use when she becomes a teacher

Other healers and informants

The other healers were Romeo Susupin, Julita Gutierrez, and Alfredo Laynes. Julita Gutierrez is said to have come back from the dead, after which she started to heal people. She does not receive payment for her services.

Information was also gathered through participant observation in the communities in Bacong and Villa Norte. Two focus group discussions were conducted, and a walk through was conducted through Mt Mabilog

Materia medica

The research was able to document the use of 143 plants (See Table) and one mineral (apog used in betel chewing) as medicinal. No animal or animal part was reported to be used as medicinal by the informants.

Table 2. Materia medica of the Alabat Ayta

Filipino name (and local name) of plant/s	Scientific name (and family)	Plant part/s used	Indication/s	Preparation and administration	Respondent /s and remarks
Abukado Bayabas Santol	1 <i>Persea americana</i> Mill. (Lauraceae) 2 <i>Psidium guajava</i> L. (Myrtaceae) 3 <i>Sandoricum koetjape</i> (Bur m.f.) Merr. (Meliaceae)	1Bark 2Tops 3Leaves	Diarrhea	Boil the plant materials. Drink decoction.	Romeo Susupin; Community
Agoho	<i>Casuarina equisetifolia</i> L. (Casuarinaceae)	Bark	Pampalaglag (Abortifacient)	Boil bark. Drink decoction.	Amy Jugueta. Note. Not as potent as sinta.
		Bark	Pamparegla (to induce menstruation)	Boil plant materials. Drink decoction.	Amy Jugueta
Agoho Makabuhay	1 <i>Casuarina equisetifolia</i> L. (Casuarinaceae) 2 <i>Tinospora rumphii</i> Boerl (Menispermaceae)	1Bark 2Stem	Pamparegla (to induce menstruation)	Boil plant materials. Drink decoction.	Amy Jugueta
		1Bark 2Stem	Pampalaglag (Abortifacient)	Boil bark. Drink decoction.	Amy Jugueta. Note. Not as potent as sinta.
Akapulko	<i>Senna alata</i> L. (Fabaceae)	Leaves	Skin fungal infection	Pound leaves to extract juice. Apply on the affected area.	FGD Group 1; FGD Group2; Community
Alagaw	<i>Premna odorata</i> Blanco (Lamiaceae)	Leaves or flowers	Cough	Boil leaves or flowers. Drink decoction.	FGD Group 1; FGD Group2; Community
		Fruits	Cough	Eat fruits.	FGD Group 1
Alupayi	<i>Homalomena philippinensis</i> Engl. (Araceae)	Tops	Hemorrhoids	Pound. Apply on the anal opening.	FGD Group 1
Ampalaya	<i>Momordica charantia</i> L. (Cucurbitaceae)	Fruit and leaves	Diabetes	Prepare as vegetable. Eat as frequently as possible.	FGD Group 1; FGD Group2; Community
Ampalayangligaw	<i>Momordica charantia</i> L. (Cucurbitaceae)	Fruits	"Beriberi" (Swelling of the feet or	Pound and extract juice. Drink juice.	FGD Group 1; Community

			body)		
Amuyong	<i>Goniothalamus amuyon</i> (Blanco) Merr. (Annonaceae)	Fruits	Kabag o tabaw (Tympanism)	Pound fruits. Apply as buga .	FGD Group 1; Community
Anonang	<i>Cordia dichotoma</i> G.Forst. (Boraginaceae)	Leaves	Headache	Heat over flame. Apply on forehead.	FGD Group 1
		Leaves or roots	Binat sa trangkaso ("Relapse" from flu)	Boil leaves or roots. Use as bath. Drink part of the decoction.	Amy Jugueta; Community
		Leaves	Binat sa nanganak	Boil leaves. Apply.	
Anonang Paragis Sampalok Suha (Lukban) Tagiwalay	1 <i>Cordia dichotoma</i> G.Forst. (Boraginaceae) 2 <i>Tamarindus indica</i> L. (Fabaceae) 3 <i>Tamarindus indica</i> L. (Fabaceae) 4 <i>Citrus maxima</i> (Burm.) Merr. (Rutaceae) 5 <i>Parameria laevigata</i> (Juss.) Moldenke (Apocynaceae)	1Leaves 2Whole plant 3Leaves 4Leaves 5Leaves	Post partum bath	Boil plant materials. Use decoction as bath.	Amy Jugueta
Asibar		Leaves	Sinisikmura	Chew. Take in the juice.	Community
Atis Katunggal	1 <i>Annona squamosa</i> L. (Annonaceae) 2 <i>Proiphys amboinensis</i> (L.) Herb. (Amaryllidaceae)	1Leaves 2Leaves	Tabaw ng bata (Tympanism)	Pound. Apply on abdomen.	Julita Gutierrez
Balete	<i>Ficus benjamina</i> L. (Moraceae)	Fruits	Barang	Eat.	Amy Jugueta
		Bark	Bali	Pound. Apply on affected area.	Amy Jugueta
		Bark of root	Swelling	Pound. Apply on foot.	FGD Group 1. Note. Use baleteng pula.
Bakaw	<i>Rhizophora mucronata</i> Lam. (Rhizophoraceae)	Bark	Sakit sa balat (Various skin conditions)	Pound. Apply juice on affected area.	FGD Group 2
Balbaspusa	<i>Orthosiphon aristatus</i> (Blume) Miq. (Lamiaceae)	Leaves and flowers	Sakit sa bato (Kidney condition)	Boil. Drink decoction.	FGD Group 1; FGD Group 2; Community
Balibago	<i>Hibiscus tilliaceus</i> L. (Malvaceae)	Inner bark	Tibo	Apply bark on affected area. Tie with a cloth and let for 30 minutes.	Alfredo Laynes
Balingway Niyog Yerbabuvena	1 <i>Flagellaria indica</i> L. (Flagellariaceae) 2 <i>Cocos nucifera</i> L. (Arecaceae)	1Leaves 2Coconut oil 3Leaves	Luga (Otitis media)	Apply juice of balingway, then clean with	Amy Jugueta

	3 <i>Mentha arvensis</i> L. (Lamiaceae)			yerbabuwena fried in oil.	
Banaba	<i>Lagerstroemia speciosa</i> (L.) Pers. (Lythraceae)	Leaves and bark	Bato sa bato (Kidney stone)	Boil leaves and bark. Drink decoction.	Amy Jugueta;
		Leaves or bark	Sakit sa bato (Kidney condition)	Boil leaves or bark. Drink decoction	FGD Group 1; FGD Group2; Community
Batikulin	<i>Litsea glutinosa</i> (Lour.) C.B.Rob. (Lauraceae)	Resin	Rayuma (Rheumatism)	Apply resin on affected part.	FGD Group 1
Bawang Lubigan	1 <i>Allium sativum</i> L. (Amaryllidaceae) 2 <i>Acorus gramineus</i> Sol. (Araceae)	1 Clove 2 Rhizome	Fever	Mix and pound plant materials and extract juice. Apply juice on the forehead.	Romeo Susupin
Bawang Lubigan Luya Luyangdilaw/ Dilaw	1 <i>Allium sativum</i> L. (Amaryllidaceae) 2 <i>Acorus gramineus</i> Sol. (Araceae) 3 <i>Zingiber officinale</i> Roscoe (Zingiberaceae) 4 <i>Curcuma longa</i> L. (Zingiberaceae)	1 Clove 2 Rhizome 3 Rhizome 4 Rhizome	Convulsions	Chew plant materials. Spit out as buga .	Amy Jugueta Note: an orasyon in Latin is used as part of treatment.
Bawang Lubigan Luya	1 <i>Allium sativum</i> L. (Amaryllidaceae) 2 <i>Acorus gramineus</i> Sol. (Araceae) 3 <i>Zingiber officinale</i> Roscoe (Zingiberaceae)	1 Clove 2 Rhizome 3 Rhizome	Usog	Chew plant materials. Spit out as buga .	Amy Jugueta
Bayabas	<i>Psidium guajava</i> L. (Myrtaceae)	Leaves	Ulser (Peptic ulcer)	Boil leaves. Drink decoction	FGD Group 1; Community
		Leaves	Wound	Boil leaves. Use decoction as wound wash.	FGD Group 1; FGD Group2; Community
		Tops	Diarrhea	Chew tops. Take in the juice.	FGD Group 1; FGD Group2; Community Amy Jugueta
Bayag-usa	<i>Voacanga globosa</i> (Blanco) Merr. (Apocynaceae)	(Healer's secret)	Para madaling manganak (For ease in birthing)	(Healer's secret)	Amy Jugueta
Boton		Tops	Hernia	Pound tops. Apply on the affected area.	FGD Group 2; Amy Jugueta. Note. Fruit is used to poison fish.

Bulak	<i>Ceiba pentandra</i> (L.) Gaertn. (<u>Malvaceae</u>)	Bark	Bali (Sprain)	Apply bark to affected area.	Amy Jugueta
Bulak Buli Irok	1 <i>Ceiba pentandra</i> (L.) Gaertn. (<u>Malvaceae</u>) 2 <i>Corypha utan</i> Lam. (<u>Arecaceae</u>) 3 <i>Arenga pinnata</i> (Wurmb) Merr. (<u>Arecaceae</u>)	1Stem bark 2Leaves 3Leaf midrib	Toothache	Boil the plant materials. Use as gargle.	Amy Jugueta
Buli Niyog Saba Sasa	1 <i>Corypha utan</i> Lam. (<u>Arecaceae</u>) 2 <i>Cocos nucifera</i> L. (<u>Arecaceae</u>) 3 <i>Musa x paradisiaca</i> L. (<u>Musaceae</u>) 4 <i>Nypa fruticans</i> Wurmb. (<u>Arecaceae</u>)	1Shoot 2Coconut water 3Shoot 4Shoot	Pasma	Express juice from shoots of buli, saba and sasa. Add coconut water. Apply on affected area.	Amy Jugueta
Bunga	<i>Areca catechu</i> L. (<u>Arecaceae</u>)	Fruit	Abdominal pain	Chew fruit. Apply as buga on abdomen.	FGD Group 1; FGD Group2; Community
		Fruits	Intestinal worms	Roast fruits, then boil. Eat.	Amy Jugueta (Note: also used to deworm pigs)
		Fruits	Dinudugo (Abnormal vaginal bleeding)	Roast fruits, then boil. Drink decoction.	Julita Gutierrez
		(Healer's secret)	Nakunan (Post-abortion)	(Healer's secret)	Amy Jugueta
Bunga Ikmo Tabako Apog	1 <i>Areca catechu</i> L. (<u>Arecaceae</u>) 2 <i>Piper betle</i> L. (<u>Piperaceae</u>) 3 <i>Nicotiana tabacum</i> L. (<u>Solanaceae</u>) 4Lime	1Fruits 2Leaves 3Dried leaves	Pampatibay ng ngipin	Chew as nganga .	Amy Jugueta Note: The shell of bayuko , a kind of terrestrial snail is used in place of apog when the latter is in short supply.
		1Fruits 2Leaves 3Dried leaves	Sakit ng tiyan ng bata	Chew as nganga . apply as buga .	Amy Jugueta; FGD Group 1; FGD Group2; Community
		1Fruits 2Leaves 3Dried leaves	Sinisikmura	Chew as nganga . Apply on the abdomen as buga .	Amy Jugueta
Bungliw		(Healer's	Kulam	(Healer's	Amy

		secret)		secret)	Jugueta
Dalunot,	<i>Pipturus arborescens</i> (Link) C.B. Rob. (<u>Urticaceae</u>)	Leaves	Pigsa sa mata (Boil near the eye)	Pound leaves. Apply on boil.	Amy Jugueta Note: tree found near rivers)
Damongmarya (Marya)	<i>Artemisia vulgaris</i> L. (Asteraceae)	Leaves	Swollen wound	Pound leaves and steam. Apply on wound.	FGD Group 1; community
		Leaves	Fever	Boil leaves. Drink decoction.	Amy Jugueta
		Leaves	Headache	Heat leaves over low flame. Apply on forehead.	FGD Group 1; FGD Group2; Community
		Leaves	Sinisikmura	Boil leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
Damong pailaya		Roots and leaves	Fever	Boil roots and leaves. Drink decoction.	Amy Jugueta
		Roots and leaves	Colds	Boil roots and leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
		Leaves	Headache	Heat leaves over low fire. Apply on the forehead.	FGD Group 1; FGD Group2; Community
		Roots and leaves	Diarrhea	Boil roots and leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
Dangkalan	<i>Calophyllum inophyllum</i> L. (Clusiaceae)	Roots	Sakit ng sikmura (Epigastric pain)	Boil roots. Drink decoction.	Amy Jugueta. Note. Has bitter taste.
		Leaves	Himatay (Syncope)	Apply leaves on patient's head.	FGD Group 2
Dayodayo		Leaves	Napuknat na kuko (Avulsed nail)	Pound leaves. Apply on affected area	FGD Group 1
Deris		Flowers	Cough	Boil flowers. Drink decoction.	Julita Gutierrez
Digay		Tops and roots	Cough	Boil roots and tops. Drink decoction.	Alfredo Laynes
Dilang butiki	<i>Dentella repens</i> (L.) J.R.Forst. & G.Forst (Rubiaceae)	Roots	Iti (Dysentery)	Boil roots. Drink decoction.	FGD Group 1
Dita	<i>Alstonia scholaris</i> (L.) R. Br. (Apocynaceae)	Bark	Malarya (chills),	Boil bark. Drink	FGD Group 1; FGD

				decoction.	Group2; Community; Romeo Susupin
		Bark	Fever	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
		Bark	Sakit ng tiyan (Abdominal pain)	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
Dog-an		Bark	Nalura ng dugo (Hemoptysis)	Boil bark. Drink decoction.	FGD Group 1; Community
		Resin	Ugam ng bata	Apply resin.	FGD Group 1; Community
Duhat	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)	Bark	Diarrhea	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
		Bark	Altapresyon (High blood pressure)	Boil bark. Drink decoction.	FGD Group 1
		Bark	Diabetes	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
Gisol (Dusol)	<i>Kaempferia alangal</i> L. (<u>Zingiberaceae</u>)	Leaves	Natinik (Foreign body stuck on skin)	Pound leaves. Apply on affected area to extract the tinik .	FGD Group 1; Amy Jugueta
Duyong Marbas Paragis	1 2 3 <i>Eleusine indica</i> (L.) Gaertn. (Poaceae)	1Fish bone 2Root 3Root	Nalura ng dugo (Hemoptysis)	Boil materials. Drink concoction.	Julita Gutierrez
Gabi	<i>Colocasia esculenta</i> (L.) Schott (Araceae)	Leaves	Hang over from alcohol binge	Cook shoot in vinegar (paksiw). Drink the soup. Take a bath.	Amy Jugueta
Gugo	<i>Entada phaseoloides</i> (L.) Merr. (Fabaceae)	Bark	Washing hair and hands	Pound the bark of gugo. Use lather for washing.	FGD Group 1; FGD Group2; Community
Guyabano	<i>Annona muricata</i> L. (Annonaceae)	Leaves	Diabetes	Boil leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
Guyongguyong	<i>Hypericum olympicum</i> L. (<u>Hypericaceae</u>)	Shoot	Fever	Boil shoot. Drink decoction.	FGD Group 1; community
		Shoot	Colds	Boil shoot. Drink	FGD Group 1

				decoction.	
Hagonoy	<i>Melanthera biflora</i> (L.) DC (Asteraceae)	Roots	Diarrhea	Boil roots. Drink decoction.	Alfredo Laynes
Herbubuhay		Leaves	Impatso (Bloated abdomen)	Put leaves on rice about to boil, extract juice then add mother's milk. Drink concoction.	FGD Group 1; Community
Ikmo	<i>Piper betle</i> L. (Piperaceae)	Roots or leaves	Hilo (Dizziness)	Boil roots or leaves. Drink decoction.	FGD Group 1; Community
Suobkabayo (Kablangkabayo)	<i>Hyptis suaveolens</i> (L.) Poit. (Lamiaceae)	Aerial part	Pamparegla (To induce menstruation)	Boil plant. Drink decoction.	Amy Jugueta
Kakaw Mais Ulat	1 2 <i>Zea mays</i> L. (Poaceae) 3	1Bark 2Cornsilk 3Roots	Para lumitaw ang tigdas at bulutong (For exanthems)	Boil plant materials use as bath. Drink a portion of the decoction.	Amy Jugueta; Note. Ulat has sharp edges.
Kakawate (Madrekakaw)	<i>Gliricidia sepium</i> (Jacq.) Walp. (Fabaceae)	Leaves	Balis	Boil leaves. Drink decoction.	FGD Group 1
		Leaves	Balis	Apply on fontanel area and sole of feet.	Amy Jugueta
		Leaves	Galis aso (Scabies)	Pound leaves. Apply on affected area.	FGD Group 1; FGD Group2; Community
Kalabasa	<i>Cucurbita maxima</i> Duchesne (Cucurbitaceae)	Shoot	Taong nabibingi (Loss of hearing)	Heat over flame. Apply as tayhop . (Bring heated shoot near ear and blow).	FGD Group 1
Kalamansi (Sintonis)	<i>Citrus x microcarpa</i> Bunge (Rutaceae)	Fruits	Cough and colds	Add juice and salt to warm water. Use as gargle.	Amy Jugueta; FGD Group 1; FGD Group2; Community
Kalamansi Tagulinaw Takipkuhol (Tayngangdaga)	1 <i>Citrus x microcarpa</i> Bunge (Rutaceae) 2 <i>Emilia sonchifolia</i> (L.) DC. Ex DC. (Lamiaceae) 3 <i>Centella asiatica</i> (L.) Urb. (Apiaceae)	1Fruit 2Leaves 3Leaves	Para hindi lumala ang sipon (For quick resolution of colds)	Boil plant materials. Drink decoction.	FGD Group2; Community
Kamantigi	<i>Impatiens balsamina</i> L. (Balsaminaceae)	Roots	Fever	Boil roots. Drink decoction.	FGD Group 1; community
Kamantigi	1 <i>Impatiens balsamina</i> L.	1Roots	Hirap	Boil plant	Amy

Paragis	(Balsaminaceae) 2 <i>Eleusine indica</i> (L.) Gaertn. (Poaceae)	2 Whole plant	manganak (To aid in birthing)	materials. Drink decoction.	Jugueta
Kamatistagalog	<i>Lycopersicon esculentum</i> Mi II (Solanaceae)	Leaves	Kalamayo sa bata	Heat leaves over low flame. Apply on affected area.	FGD Group 1
Kamote	<i>Ipomoea batatas</i> (L.) Poir. (Convolvulaceae)	Leaves	Alta (High blood pressure)	Eat as vegetable as often as possible.	Amy Jugueta
Kamyas (Kalamyas)	<i>Averrhoa bilimbi</i> L. (Oxalidaceae)	Leaves	Postpartum bath	Boil leaves. Use decoction as bath.	FGD Group 1; FGD Group2; Community
		Bark	Measles	Boil bark. Drink decoction.	FGD Group 1
		Bark	Binat	Boil bark. Use decoction as bath.	FGD Group 1; FGD Group2
Karigkarig		Leaves or roots	Suka't tae	Boil or steep in hot water. Drink concoction.	Amy Jugueta. Note. Plant is rare. Bitter taste.
Kasupanggi		Tops	Colds	Heat over low flame. Apply on the chest and back.	Amy Jugueta. Note. The tops and flowers are prepared as ginanga (cooked with vinegar).
Kasuy	<i>Anacardium occidentale</i> L. (Anacardiaceae)	Bark	Diabetes	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
		Leaves	UTI	Boil bark. Drink decoction.	FGD Group 1; FGD Group2
Katakataka	<i>Bryophyllum pinnatum</i> (Lam) Kurz. (Crassulaceae)	Leaves	Bruises	Heat and pound leaves. Apply on affected area.	FGD Group 1; FGD Group2; Community
Katmon	<i>Dillenia philippinensis</i> L. (Dilleniaceae)	Fruits	Cough	Boil fruits. Drink decoction.	FGD Group 1; FGD Group2; Community
		Roots	Cough	Extract water from the roots by pounding and squeezing. Drink the	FGD Group 1

				extract.	
Katunggal (Hukom)	<i>Proiphys amboinensis</i> (L.) Herb. (<u>Amaryllidaceae</u>)	Leaves	Sakit ng dibdib at likod (Pain on the chest and back)	Heat leaves over low flame. Apply on affected area.	FGD Group 1; FGD Group2; Community
		Leaves	Kabag (Colic)	Pound leaves. Apply on the abdomen.	Amy Jugueta
		Leaves	Pamamaga (Swelling)	Heat leaves. Apply on affected part.	Amy Jugueta
		Bulb	Nalason (Poisonong)	Boil the root bulb. Drink decoction and let patient vomit.	Amy Jugueta
Kawakawayan		Roots	Sakit sa bato (Kidney condition)	Boil roots. Drink decoction.	FGD Group 1; Community
Kaymito	<i>Chrysophyllum cainito</i> L. (Sapotaceae)	Bark	Diarrhea	Boil bark. Drink decoction.	FGD Group 1; FGD Group2; Community
Koyuskoyus		Bark	Snake bite	Heat the bark over low fire. Apply on affected part.	FGD Group 1; community
Kugon	<i>Imperata cylindrica</i> (L.) Raeusch. (Poaceae)	Roots	Sakit sa bato (Kidney condition)	Boil roots. Drink decoction.	FGD Group 1; FGD Group2; Community
Kulapi		Leaves	Nasundang (Hack wound)	Chew leaves. Apply on the wound.	Amy Jugueta
Kulitan	<i>Triumfetta bartramia</i> L. (<u>Malvaceae</u>)	Flowers	Fever	Boil flowers (3 for child, 7 for adult). Drink decoction.	Romeo Susupin Note: kulutan has pink flowers.
		Flowers	Fever	Boil flowers. Drink decoction.	Amy Jugueta
Lagikway Kalamansi (Sintonis)	1 <i>Abelmoschus manihot</i> (L.) Medik. (Malvaceae) 2 <i>Citrus x microcarpa</i> Bunge (Rutaceae)	1Leaves 2Fruits	High blood pressure	Boil lagikway leaves, add kalamansi juice. Eat as part of the meal.	Amy Jugueta
Lagtang	<i>Anamirta cocculus</i> (L.) Wight & Arn. (Menispermaceae)	Roots	Sakit ng tiyan (Abdominal pain)	Steep roots in alak (alcohol). Take in the morning.	Amy Jugueta
Lagundi	<i>Vitex negundo</i> L. (Lamiaceae)	Leaves	Cough	Boil leaves. Drink decoction.	FGD Group 1; community

Langkawas	<i>Alpinia zerumbet</i> (Pers.) B.L.Burt & R.M.Sm. (Zingiberaceae)	Rhizome	An-an (Pityriasis versicolor)	Pound to extract juice. Apply 2 to 3 times a day	Amy Jugueta; Alfredo Laynes; FGD Group 1; FGD Group2; Community
Layagan		Fruit	Pag hindi lumabas ang bata (Delayed birthing)	Roast fruit. Eat.	FGD Group 1
Layasin	<i>Leucosyke capitellata</i> Wedd . (Urticaceae)	Stem	Sore eyes.	Cut stem in the morning. Drop juice onto the eye.	Amy Jugueta; FGD Group 1. Note. Grows near river
Lubigan	<i>Acorus gramineus</i> Sol. (Araceae)	Rhizome	Rheumatism	Heat rhizome over low fire. Pound and apply on affected area	Community
Lubilubi/ Niyogniyugan (Mustasangubat)	<i>Ficus pseudopalma</i>	Tops	High blood pressure	Prepare as sinigang or ginisa .	Amy Jugueta
		Tops	Bulate (Intestinal worms)	Prepare as ginatan or as sinigang . Eat.	FGD Group 1; Amy Jugueta. Note. Also considered as ulam .
Luya (Luyangputi)	<i>Zingiber officinale</i> Roscoe (Zingiberaceae)	Rhizome	Cough	Prepare as salabat . Drink when lukewarm.	FGD Group 1; FGD Group2; Community
Luyangdilaw	<i>Curcuma longa</i> L. (Zingiberaceae)	Leaves and rhizome	Kabag (Colic)	Chew rhizome. Apply on stomach with leaves as cover.	Amy Jugueta
Luyang-itim	<i>Alpinia luteocarpa</i> Elmer (Zingiberaceae)	Rhizome	Kontra maligno	(Healer's secret)	Amy Jugueta. Note. Considered the best ginger for cooking.
Luyangpula	<i>Alpinia purpurata</i> (Vieill.) K.Schum. (Zingiberaceae)	Rhizome	Scabies	Fry rhizome in oil. Apply oil on affected area.	Amy Jugueta
		Rhizome	Body pain.	Heat rhizome. Apply on affected area.	Amy Jugueta

Mahogany	<i>Swietenia mahogani</i> L. (Meliaceae)	Seeds	Sakit ng tiyan	Boil seeds. Drink decoction.	FGD Group 2
		Seeds	Pampaagas (Abortifacient)	(Healer's secret)	Amy Jugueta
Mais	<i>Zea mays</i> L. (Poaceae)	Cornsilk	Sakit sa bato (Kidney condition)	Boil cornsilk. Drink decoction.	FGD Group 1; FGD Group2; Community
Makabuhay	<i>Tinospora rumphii</i> Boerl (Menispermaceae)/ <i>Tinospora crispa</i> (L.) Hook. F. & Thomson	Vine	Toothache	Pound vine to extract juice. Drop juice on the eye.	Alfredo Laynes
		Vine	Pampalaglag (Abortifacient)	Boil vine. Drink decoction.	Amy Jugueta. Note. Not as potent as sinta.
		Vine	Hindi magkaanak (Infertility)	(Healer's secret)	Amy Jugueta. Note. Bitter plants cleanse the uterus.
Makahiya	<i>Mimosa pudica</i> L. (Fabaceae)	Roots	Dysentery	Boil roots. Drink decoction.	Amy Jugueta
		Roots	Balis	Use as haplas	Amy Jugueta
Mangga	<i>Mangifera indica</i>	Leaves	Pasma	Boil leaves. Apply.	FGD Group 2; Community
Mansanilya	<i>Chrysanthemum indicum</i> L. (Lamiaceae)	Leaves	Sinisikmura (Dyspepsia)	Boil leaves. Drink decoction.	FGD Group 1; Community
Nipay		Vine	Singaw (Oral thrush)	Boil vine. Use as gargle.	Alfredo Laynes
Niyog	<i>Cocos nucifera</i> L. (Arecaceae)	Coconut oil	For massage		FGD Group 1; FGD Group2; Community
Oregano	<i>Coleus amboinicus</i> Lour. (Lamiaceae)	Leaves	Cough	Place on rice about to cook. Express juice and drink.	FGD Group 1; FGD Group2; Community
Palay	<i>Oryza sativa</i> L. (Poaceae)	Darak (Rice bran)	"Beriberi" (Edema)	Burn darak, apply on feet and bury in the sand.	Amy Jugueta
Pandakaki	<i>Tabernaemontana pandacaqui</i> Lam. (Apocynaceae)	Leaves	Sugat na may nana	Heat over low flame. Apply on affected area.	FGD Group 1; FGD Group2

Pandanmabango	<i>Pandanus amaryllifolius</i> Roxb. (Pandanceae)	Leaves	High blood pressure	Boil 7 leaves. Drink decoction.	Amy Jugueta (Note: Patient's urine is increased)
Papaya	<i>Carica papaya</i> L. (Caracaceae)	Leaves	Dengue	Boil leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
Paragis	<i>Eleusine indica</i> (L.) Gaertn. (Poaceae)	Roots	Dysentery	Boil roots. Drink decoction	Amy Jugueta
Pasdak babae/ Pungol Pasdak lalake Tagulaylay	1 2 3	(Healer's secret)	(Healer's secret)	(Healer's secret)	Amy Jugueta Note: pasdak is a kind of orchid
Pili (Basyad)	<i>Canarium ovatum</i> Engl. (Burseraceae)	Bark	Binat sa nanganak (Relapse after childbirth)	Boil bark. Drink decoction.	FGD Group 1; community
		Resin	Binat	Boil resin in water. Apply on the body.	Amy Jugueta. Note. Better than anonang for binat.
		Resin	Pamparegla (To induce menstruation)	Boil resin. Drink concoction.	Amy Jugueta
		Resin	Pampaihi	Boil a child's fistful of resin. Drink concoction.	Amy Jugueta
Pusopuso	<i>Litsea glutinosa</i> (Lour.) C.B.Rob. (Lauraceae)	(Healer's secret)	Haemorrhoids	(Healer's secret)	Amy Jugueta. Note. Pusopuso is similar to tagbak but is smaller; bears fruit on the stem near the ground.
Sabila	<i>Aloe vera</i> (L.) Burm.f. / <i>Aloe barbadensis</i> Mill (Liliaceae)	Leaves	Wound	Apply juice.	Amy Jugueta; FGD Group 1; FGD Group2; Community
		Leaves	Falling hair	Apply juice.	Amy Jugueta; FGD Group 1; FGD

					Group2; Community
		Leaves	Wound, infected (with pus)	Apply juice.	Amy Jugueta (Note: <i>Naglilinis ng nana ang sabila</i>)
Sagasaga Timbangtimbang	1 2 <i>Aristolochia tagala</i> Cham. (Aristolochiaceae)	1Roots 2Vine	<i>Binat</i>	Boil plant materials. Use as bath.	FGD Group 1
Saging	<i>Musa x paradisiaca</i> L (Musaceae)	Leaves	<i>Altapresyon</i> (High blood pressure)	Boil leaves. Drink decoction.	Julita Gutierrez Note. Yellow leaves are used.
Sambong	<i>Blumea balsamifera</i> (L.) DC. (Asteraceae)	Leaves	<u>Sakit ng tiyan</u> (Abdominal pain)	Boil leaves. Drink decoction.	FGD Group 1; community
		Leaves	<i>Altapresyon</i> (High blood pressure)	Boil leaves. Drink decoction.	Julita Gutierrez
Sambong Tanglad	1 <i>Blumea balsamifera</i> (L.) DC. (Asteraceae) 2 <i>Cymbopogon citratus</i> (DC.) Stapf (Poaceae)	1Leaves 2Whole plant	<i>Trangkaso</i> (Flu)	Apply kerosene on sambong and tanglad leaves. Use to massage the body (<i>hilot</i>).	Julita Gutierrez
Sambongsambungan		Roots	Fever	Boil roots. Drink decoction.	Amy Jugueta; low growing plant; leaf shape similar to sambong
		Leaves	Headache	Heat over low fire. Apply on forehead.	Amy Jugueta
		Roots	Colds	Boil roots. Drink decoction	Amy Jugueta
Sampalok	<i>Tamarindus indica</i> L. (Fabaceae)	Leaves	Cough	Boil leaves. Drink decoction.	FGD Group 1; FGD Group2; Community
Sampasampalukan	<i>Phyllanthus niruri</i> L. (Phyllanthaceae)	Aerial part	<i>Taon</i> (Jaundice in newborn)	Express juice. Drink juice.	Community
Sampiki		Leaves	<i>Sakit ng tiyan</i>	Boil leaves. Drink decoction.	Amy Jugueta. Note. Sampiki is bitter and thus good for stomach ache. The plant is

					considered malamig .
Santol	<i>Sandoricum koetjape</i> (Burm f.) Merr. (Meliaceae)	Bark	Kabag (Tympanism)	Boil bark. Drink decoction.	FGD Group 1
		Bark	Hindi natunawan	Boil bark. Drink decoction.	FGD Group 1
		Leaves	Impatso	Pound leaves. Apply as poultice.	FGD Group 1
		Fallen leaves	Dysentery	Boil leaves. Drink decoction.	Amy Jugueta
Sapang	<i>Caesalpinia sappan</i> L. (Fabaceae)	Wood	Pandagdag sa dugo (Anemia)	Grate the wood and boil. Drink decoction.	FGD Group 1; community
Sibuyas	<i>Allium cepa</i> L. (Amaryllidaceae)	Bulb	Cough	Boil. Drink decoction.	Julita Gutierrez
Sibuyastagalog Yerbabuwena	1 2 <i>Mentha arvensis</i> L. (Lamiaceae)	1Bulb 2Leaves	Colds	Boil. Drink decoction.	Julita Gutierrez
Sili/Pasiti	<i>Capsicum frutescens</i> L. (Solanaceae)	Fruits	Convulsions	Extract juice. Apply juice to the mouth.	Amy Jugueta
		Fruits	Pantal dahil sa basil. (Wheal)	Pound fruit. Apply on affected area.	Community
		Fruits	Suka't tae	Warm the fruits on a blade of a bolo. Apply on the abdomen.	Julita Gutierrez
Sinta (Damuro, Likha)	<i>Andrographis paniculata</i> Nees (Acanthaceae)	Leaves	Pampalaglag	Boil a handful of the leaves in a gallon of water. Take 3 times a day before meals.	Amy Jugueta
		Leaves	Pampaliit ng matris	(Healer's secret)	Amy Jugueta
		Leaves	Sakit ng tiyan	Boil 7 leaves. Drink decoction.	Amy Jugueta; FGD Group 1; FGD Group2; Community
Sinukuan		Bark	TB	Boil bark. Drink decoction.	Alfredo Laynes. Note. A sinukuan is any tree where a balete is also

					growing.
Suha	<i>Citrus maxima</i> (Burm.) Merr.(Rutaceae)	Leaves	Postpartum bath	Boil leaves. Use decoction as bath.	FGD Group 1
Sulasi	<i>Ocimum tenuiflorum</i> L. (Lamiaceae)	Leaves	Intestinal worms	Boil leaves. Drink decoction.	FGD Group 1
Tagbak	<i>Alpinia elegans</i> (C.Presl) K.Schum. (Zingiberaceae)	Bilot (Tops)	Diarrhea	Chew tops. Take in the juice.	Amy Jugueta
Tagbak na pula	<i>Alpinia haenkei</i> C.Presl (Zingiberaceae)	Stem	Snake bite	Pound. Apply on affected area.	Amy Jugueta; Alfredo Laynes
		(Healer's secret)	Nabarang	(Healer's secret)	Amy Jugueta
		(Healer's secret)	Natawak ng itim na hayop	(Healer's secret)	Amy Jugueta
Tagulinaw	<i>Emilia sonchifolia</i> (L.) DC. Ex DC. (Lamiaceae)	Roots	Colds	Boil roots. Drink decoction.	Amy Jugueta
		Roots	Fever	Boil roots. Drink decoction.	Amy Jugueta
		Leaves	Headache	Heat over low fire. Apply on forehead.	Amy Jugueta
Tagiwalay		Leaves	Pabalikbalik na lagnat (Recurrent fever)	Boil. Use as bath.	FGD Group 1
Talinum/ Talilong	<i>Talinum paniculatum</i> (Jacq.) Gaertn. (Talinaceae)	Leaves	High blood pressure	Eat as vegetable.	Amy Jugueta
Tangantangan	<i>Ricinus communis</i> L. (Euphorbiaceae)	Leaves	Sprain	Heat over low fire. Apply on affected area.	FGD Group 1; FGD Group2; Community
Tanglad	<i>Cymbopogon citratus</i> (DC.) Stapf (Poaceae)	Shoot	Toothache	Roast shoot. Apply on aching tooth.	FGD Group 1; community
		Stems	High blood pressure	Boil 3 stems. Drink decoction.	Amy Jugueta
Tatlotatlo		Leaves	Back and chest pain	Heat leaves over flame. Apply on affected part.	FGD Group 1; Community
Tawatawa	<i>Chamaesyce hirta</i> L. (Euphorbiaceae)	Aerial part	Dengue	Boil plant material. Drink decoction.	FGD Group 1; FGD Group2; Community
Tibig na puti	<i>Ficus nota</i> (Blanco) Merr. (Moraceae)	fruits	Buni (Tinea corporis)	Pound fruits. Apply on buni on the head.	Amy Jugueta. Note. Tibig na pula's tops are

					prepared as ginatan.
Tigaw	<i>Callicarpa candicans</i> (Burm. f.) Hochr. (Lamiaceae)	Flowers	Tigdas (Measles)	Boil flowers. Drink decoction	FGD Group 1; community
Tubli	<i>Derris elliptica</i> (Wall.) Benth. (Fabaceae)	Roots	Fish poison	Pound and cast onto the river.	Amy Jugueta
Tugos		Seeds	Kabag	(Healer's secret)	Community. Tugos has brown seeds that turn black when mature
		Seeds	Iwas usog.	Wear as bracelet or necklace.	Amy Jugueta
Tsitsirika	<i>Catharanthus roseus</i> (L.) G. Don (Apocynaceae)	Roots	Nalura ng dugo	Boil roots. Drink decoction	FGD Group 1
Tubang-aso		Bark or leaves	Pilay (Sprain)	Roast bark or leaves. Apply on the sprained ankle.	FGD Group 1; community
Tubangbakod	<i>Jatropha curcas</i> L. (Euphorbiaceae)	Leaves	Pilay (Sprain)	Heat over low fire. Apply on affected area.	FGD Group 1; FGD Group 2; Community
Tugawi		Roots	Lason sa ilog (Fish poison)	Pound and cast onto the river.	Amy Jugueta
Tukangkalo		Bark	Poisoning	Boil bark. Drink decoction	FGD Group 1; community
Yerbabuwena	<i>Mentha arvensis</i> L. (Lamiaceae)	Leaves	Colds	Boil leaves. Drink decoction	Amy Jugueta; FGD Group 1; FGD Group 2; Community
		Leaves	Pasma sa gutom	Boil leaves. Drink decoction	Amy Jugueta

Appendix. Materia medica of the Alabat Ayta

<i>Filipino name (and local name) of plant/s</i>	<i>Scientific name (and family)</i>
1Abukado	1 <i>Persea americana</i> Mill. (Lauraceae)
Agoho	<i>Casuarina equisetifolia</i> L. (Casuarinaceae)
Akapulko	<i>Senna alata</i> L. (Fabaceae)
Alagaw	<i>Premna odorata</i> Blanco (Lamiaceae)
Alupayi	<i>Homalomena philippinensis</i> Engl. (Araceae)
Ampalaya	<i>Momordica charantia</i> L. (Cucurbitaceae)
Ampalayangligaw	<i>Momordica charantia</i> L. (Cucurbitaceae)
Amuyong	<i>Goniothalamus amuyon</i> (Blanco) Merr. (Annonaceae)
Anonang	<i>Cordia dichotoma</i> G.Forst. (Boraginaceae)
10 Asibar	
Atis	1 <i>Annona squamosa</i> L. (Annonaceae)
Balete	<i>Ficus benjamina</i> L. (Moraceae)
Bakaw	<i>Rhizophora mucronata</i> Lam. (Rhizophoraceae)
Balbaspusa	<i>Orthosiphon aristatus</i> (Blume) Miq. (Lamiaceae)
Balibago	<i>Hibiscus tilliaceous</i> L.(Malvaceae)
Balingway	1 <i>Flagellaria indica</i> L. (Flagellariaceae)
Banaba	<i>Lagerstroemia speciosa</i> (L.) Pers. (Lythraceae)
Batikulin	<i>Litsea glutinosa</i> (Lour.) C.B.Rob. (Lauraceae)
Bawang	1 <i>Allium sativum</i> L. (Amaryllidaceae)
20Bayabas	<i>Psidium guajava</i> L. (Myrtaceae)
Bayag-usa	<i>Voacanga globosa</i> (Blanco) Merr.(Apocynaceae)
Boton	
Bulak	<i>Ceiba pentandra</i> (L.) Gaertn. (Malvaceae)
Buli	1 <i>Corypha utan</i> Lam. (Arecaceae)
Bunga	<i>Areca catechu</i> L. (Arecaceae)
Bungliw	
Dalunot,	<i>Pipturus arborescens</i> (Link) C.B. Rob. (Urticaceae)
Damongmarya (Marya)	<i>Artemisia vulgaris</i> L. (Asteraceae)
Damong pailaya	

30Dangkalan	<i>Calophyllum inophyllum</i> L.(Clusiaceae)
Dayodayo	
Deris	
Digay	
Dilang butiki	<i>Dentella repens</i> (L.) J.R.Forst. & G.Forst (Rubiaceae)
Dita	<i>Alstonia scholaris</i> (L.) R. Br. (Apocynaceae)
Dog-an	
Duhat	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)
Duyong	
Gabi	<i>Colocasia esculenta</i> (L.) Schott (Araceae)
40Gisol (Dusol)	<i>Kaempferia alangal</i> L. (<u>Zingiberaceae</u>)
Gugo	<i>Entada phaseoloides</i> (L.) Merr. (Fabaceae)
Guyabano	<i>Annona muricata</i> L. (Annonaceae)
Guyongguyong	<i>Hypericum olympicum</i> L. (<u>Hypericaceae</u>)
Hagonoy	<i>Melanthera biflora</i> (L.) DC (Asteraceae)
Herbubuhay	
Ikmo	<i>Piper betle</i> L. (Piperaceae)
Irok	3 <i>Arenga pinnata</i> (Wurmb) Merr. (<u>Arecaceae</u>
Mais	<i>Zea mays</i> L. (Poaceae)
Kakaw	<i>Theobroma cacao</i> L. (Malvaceae)
50Kakawate (Madrekakaw)	<i>Gliricidia sepium</i> (Jacq.) Walp. (Fabaceae)
Kalabasa	<i>Cucurbita maxima</i> Duchesne (Cucurbitaceae)
Kalamansi (Sintonis)	<i>Citrus x microcarpa</i> Bunge (Rutaceae)
Kamantigi	<i>Impatiens balsamina</i> L. (Balsaminaceae)
Kamatistagalog	<i>Lycopersicon esculentum</i> Mill (<u>Solanaceae</u>)
Kamote	<i>Ipomoea batatas</i> (L.) Poir. (Convolvulaceae)
Kamyas (Kalamyas)	<i>Averrhoa bilimbi</i> L. (Oxalidaceae)
Karigkarig	
Kasupanggi	
Kasuy	<i>Anacardium occidentale</i> L. (Anacardiaceae)
60Katakataka	<i>Bryophyllum pinnatum</i> (Lam) Kurz. (Crassulaceae)
Katmon	<i>Dillenia philippinensis</i> L. (Dilleniaceae)
Katunggal (Hukom)	<i>Proiphys amboinensis</i> (L.) Herb. (Amaryllidaceae)
Kawakawayan	

Kaymito	<i>Chrysophyllum cainito</i> L. (Sapotaceae)
Koyuskoyus	
Kugon	<i>Imperata cylindrica</i> (L.) Raeusch. (Poaceae)
Kulapi	<i>Terminalia actinophylla</i> Mart. (Combretaceae)
Kulitan	<i>Triumfetta bartramia</i> L. (Malvaceae)
Lagikway	1 <i>Abelmoschus manihot</i> (L.) Medik. (Malvaceae)
70Lagtang	<i>Anamirta cocculus</i> (L.) Wight & Arn. (Menispermaceae)
Lagundi	<i>Vitex negundo</i> L. (Lamiaceae)
Langkawas	<i>Alpinia zerumbet</i> (Pers.) B.L.Burt & R.M.Sm. (Zingiberaceae)
Layagan	
Layasin	<i>Leucosyke capitellata</i> Wedd. (Urticaceae)
Lubigan	<i>Acorus gramineus</i> Sol. (Araceae)
Lubilubi/ Niyogniyugan (Mustasangubat)	<i>Ficus pseudopalma</i>
Luya (Luyangputi)	<i>Zingiber officinale</i> Roscoe (Zingiberaceae)
Luyangdilaw	<i>Curcuma longa</i> L. (Zingiberaceae)
Luyang-itim	<i>Alpinia luteocarpa</i> Elmer (Zingiberaceae)
80Luyangpula	<i>Alpinia purpurata</i> (Vieill.) K.Schum. (Zingiberaceae)
Mahogany	<i>Swietenia mahogani</i> L. (Meliaceae)
Mais	<i>Zea mays</i> L. (Poaceae)
Makabuhay	<i>Tinospora rumphii</i> Boerl (Menispermaceae)/ <i>Tinospora crispa</i> (L.) Hook. F. & Thomson
Makahiya	<i>Mimosa pudica</i> L. (Fabaceae)
Mangga	<i>Mangifera indica</i>
Mansanilya	<i>Chrysanthemum indicum</i> L. (Lamiaceae)
Marbas	<i>Abutilon indicum</i> (L.) Sweet (Malvaceae)
Nipay	
Niyog	<i>Cocos nucifera</i> L. (Arecaceae)
90Oregano	<i>Coleus amboinicus</i> Lour. (Lamiaceae)
Palay	<i>Oryza sativa</i> L. (Poaceae)
Pandakaki	<i>Tabernaemontana pandacaqui</i> Lam. (Apocynaceae)
Pandanmabango	<i>Pandanus amaryllifolius</i> Roxb. (Pandanceae)
Papaya	<i>Carica papaya</i> L. (Caracaceae)
Paragis	<i>Eleusine indica</i> (L.) Gaertn. (Poaceae)
Pasdak babae/	1 2 3
Pasdak lalake	
Pili (Basyad)	<i>Canarium ovatum</i> Engl. (Burseraceae)
Pungol	
100Pusopuso	<i>Litsea glutinosa</i> (Lour.) C.B.Rob. (Lauraceae)
Sabila	<i>Aloe vera</i> (L.) Burm.f. / <i>Aloe barbadensis</i> Mill (Liliaceae)

Sagasaga	1 2
Saging	<i>Musa x paradisiaca</i> L (Musaceae)
Sambong	<i>Blumea balsamifera</i> (L.) DC. (Asteraceae)
Sambongsambungan	
Sampalok	<i>Tamarindus indica</i> L. (Fabaceae)
Sampasampalukan	<i>Phyllanthus niruri</i> L. (Phyllanthaceae)
Sampiki	
Santol	<i>Sandoricum koetjape</i> (Burm.f.) Merr. (Meliaceae)
110Sapang	<i>Caesalpinia sappan</i> L. (Fabaceae)
Sasa	<i>Nypa fruticans</i> Wurmb. (Arecaceae)
Sibuyas	<i>Allium cepa</i> L. (Amaryllidaceae)
Sibuyastagalog	1
Sili/Pasiti	<i>Capsicum frutescens</i> L. (Solanaceae)
Sinta (Damuro, Likha)	<i>Andrographis paniculata</i> Nees (Acanthaceae)
Sinukuan	
Suha	<i>Citrus maxima</i> (Burm.) Merr. (Rutaceae)
Sulasi	<i>Ocimum tenuiflorum</i> L. (Lamiaceae)
Suobkabayo (Kablingkabayo)	<i>Hyptis suaveolens</i> (L.) Poit. (Lamiaceae)
120Tabako	<i>Nicotiana tabacum</i> L. (Solanaceae)
Tagbak	<i>Alpinia elegans</i> (C.Presl) K.Schum. (Zingiberaceae)
Tagbak na pula	<i>Alpinia haenkei</i> C.Presl (Zingiberaceae)
Tagiwalay	
Tagulaylay	
Tagulinaw	<i>Emilia sonchifolia</i> (L.) DC. Ex DC. (Lamiaceae)
Takipkuhol (Tayngangdaga)	3 <i>Centella asiatica</i> (L.) Urb. (Apiaceae)
Talinum/ Talilong	<i>Talinum paniculatum</i> (Jacq.) Gaertn. (Talinaceae)
Tangantangan	<i>Ricinus communis</i> L. (Euphorbiaceae)
Tanglad	<i>Cymbopogon citratus</i> (DC.) Stapf (Poaceae)
130Tatlotatlo	
Tawatawa	<i>Chamaesyce hirta</i> L. (Euphorbiaceae)
Tibig na puti	<i>Ficus nota</i> (Blanco) Merr. (Moraceae)
Tigaw	<i>Callicarpa candicans</i> (Burm.f.) Hochr. (Lamiaceae)
Timbangtimbang	<i>Aristolochia tagala</i> Cham. (Aristolochiaceae)
Tubli	<i>Derris elliptica</i> (Wall.) Benth. (Fabaceae)
Tugos	

Tsitsirika	<i>Catharanthus roseus</i> (L.) G.Don (Apocynaceae)
Tubang-aso	
Tubangbakod	<i>Jatropha curcas</i> L. (Euphorbiaceae)
140Tugawi	
Tukangkalo	
Ulat	
143 Yerbabuwena	<i>Mentha arvensis</i> L. (Lamiaceae)
143 plants	
1 mineral	

Directory

NCIP regional office	3A Argo Building, 574 EDSA Ave near corner Tuazon St, Quezon City Tel (02) 4391357	Dr Roberto Almonte, Regional Director Juliet Bernabe, HR Dana Bunnol Grace Maris
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NCIP Community service center	9 Edono St, near corner Leon Guinto St	Rosita Liwagon 0915-4966198
Manuel S Enverga University Foundation	University Site, Lucena City	Augusta Rosario Villamater, Library director PJ Castro, Faculty
Southern Luzon State University	Lucban, Quezon	
Tribal Center for Development (TCA)	Infanta, Quezon	
Tanggol Kalikasan	Lucena City	
Alabat local government units	Barangay Bacong	Barangay Captain Nonylon Almacen

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Project Leader