



# Australian

Journal of

# Basic and Applied Sciences

AENSI Publisher

# AJBAS



## Australian Journal of Basic and Applied Sciences(AJBAS)



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Not reported for evaluation

Archival ratings ➤

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Reports 2010-2019

**141** - Number of journal citations

Included auto-citations - **0**

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The Journal of the AJBAS (Australian Journal of Basic and Applied Sciences) has been published since 2007. AJBAS (Australian Journal of Basic and Applied Sciences) is a multidisciplinary journal that publishes high quality research publications in the areas of Agriculture, Biological, Information, Engineering, Health & Life Sciences, Zoology, Humanity, Social and Applied Sciences etc. and published by American-Eurasian Network for Scientific Information, Jordan with ISSN: 1991-8178. Being an academic-research publisher of peer-reviewed journals across the world, AJBAS is committed to publish excellent, original, double-blind peer-reviewed research articles of all types in various subjects. Along with AJBAS, AENSI Publishing Corporation publishes a number of journals to nurture the community and recognize the budding talents in the scientific world.

AJBAS (Australian Journal of Basic and Applied Sciences) reached until October of 2017 around 20.500 citations according to Google scholar and there are strategies for increasing the citations to be in the end of 2017 more than 21 000 citations by publishing the high-quality papers and specific topics which have highly attentions around the world.

<https://scholar.google.com/citations?user=NojREosAAAAJ&hl=en>

**Google-based Impact Factor: 2.5**

The [impact factor \(IF\)](#) normally is calculated by Thomson Reuters based on the Web of Science (WOS). However, Google Scholar now provides an alternative Google-based impact factor. Google Scholar is the only openly available database suitable for journal metric calculation. It has a wide coverage and is a meaningful source. For this reason, AJBAS (Australian Journal of Basic and Applied Sciences) is calculating its own Impact Factor by applying [Thomson Reuters'\(TR\)](#) algorithm based on Google Scholar's citation counts.

## AS Journal Stats until October 2017

Articles	<a href="#">2700</a>
Citations	<a href="#">20500</a>
h-index	<a href="#">43</a>
i10-index	<a href="#">669</a>
IF	<a href="#">2.5</a>

### IMPACT FACTOR IF FOR AJBAS

**MIAR collects data for the identification and the analysis of scientific journals (Spain)**

**ICDS IF= 3.5** <http://miar.ub.edu/issn/1991-8178>

**SCIENTIFIC JOURNAL IMPACT FACTOR (SJIF 2013 = 3.84).**

**GLOBAL IMPACT FACTOR (GIF 2015=0.786)**

**INFOBASE INDEX IBI FACOTR IN 2015=3.79**

**GENERAL IMPACT FACTOR IN 2016: 0.7039**

**Australian Journal of Basic and Applied Sciences Journal Impact under RESEARCHGATE: 0.23**

**\* \*This value is calculated using RESEARCHGATE data and is based on average citation counts from work published in this journal.**

### Most cited articles

Induction and modulation of resistance in tomato plants against Fusarium wilt disease by bioagent fungi (arbuscular mycorrhiza) and/or hormonal elicitors (jasmonic acid & salicylic acid): 1-Changes in growth, some metabolic activities and endogenous hormones related to defence mechanism

[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=NojREosAAAAJ&citation\\_for\\_view=NojREosAAAAJ:qKtbcrzMvwAC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=NojREosAAAAJ&citation_for_view=NojREosAAAAJ:qKtbcrzMvwAC)

Factors influencing acoustic performance of sound absorptive materials

[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=NojREosAAAAJ&citation\\_for\\_view=NojREosAAAAJ:kMwF0kOiZPMC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=NojREosAAAAJ&citation_for_view=NojREosAAAAJ:kMwF0kOiZPMC)

Impact of Treatment on Growth and Yield of Lettuce and Tomato

[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=NojREosAAAAJ&citation\\_for\\_view=NojREosAAAAJ:RIrVDUe1hjoC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=NojREosAAAAJ&citation_for_view=NojREosAAAAJ:RIrVDUe1hjoC)

Rice husk ash concrete: the effect of RHA average particle size on mechanical properties and drying shrinkage

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Isolation and identification of new cellulases producing thermophilic bacteria from an Egyptian hot spring and some properties of the crude enzyme

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fundamental research to other researchers.

The journal includes detailed reports of original research results on various aspects of multidisciplinary and directly related subjects such as:

Agriculture and forestry

Agriculture and veterinary medicine

Soil-Plant-Water Relationships

Statistics

Biological and environmental science

Medical science, medicine, dentistry, pharmacy,.

Natural and applied Science, Chemistry, physics, geology, biostatistics and bioinformatics

Nanobiology, chemical biology, biochemistry, biophysics, medical physics

Structure biology (proteins, lipids, carbohydrates and DNA), cellular signaling, redox biology, stem cells and phytochemicals

Information technology

Technology Innovation in Information Technology

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**The 2-year Google-based Journal Impact Factor (2-GJIF) is 2.5**

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NOVEMBER, 2015

---

**Mechanical Properties of sandwich Composites made using Prosopis juliflora, sisal and Glass fibers**

*R Gopinath, K Ganesan, S.S Saravana Kumar and R Poopathi*

[1-9](#)

---

**Jamming Resistant Partial Random Channel Selection in Cognitive Wi-Fi Networks**

*K.Karunambiga and M. Sundarambal*

[10-16](#)

---

**Determination of  $^{226}\text{Ra}$  in water using ion exchange resin and alpha spectrometry study and validation.**

*Al-Jawharah Hamad Al-Muqrin*

[17-22](#)

---

**A Survey on Web Applications Performance testing**

*Ms.B.Shyaamini and Dr.M.Senthilkumar*

[23-29](#)

---

**A Conceptual Model Of Factors Influencing Entrepreneurial Mind**

*Dr. Hesham A.E. Magd and Dr. Eric V. Bindah*

[30-37](#)

---

**An Autonomous Pest Detection and Pesticide spraying system Using Image Processing and Embedded Processor**

*A.Sivasangari, Dr.D.Saraswady, Dr.G.Sasikumar*

[38-43](#)

---

**Antitumor Effect of 1-[(4-Chloro-Chloro-Benzylidene)-Amino]-5-Phenyl-1H-Pyrrole-2-Thiol in Different Type of Cell Lines**

*Firas A. Hassan, Ahemd Alshanon and Alaa H. Jawad*

[44-48](#)

---

**The Role of Al Doping and Annealing Temperatures on Structural Properties of Nano Thin CdS Films Prepared by PLD**

*M.F.A. Alias and M.A. Kh. Ismael*

[49-53](#)

---

**Superconducting Properties of  $\text{Bi}_{1.7}\text{Pb}_{0.3}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{10+\delta}$ ; Added with Nano Particle  $\gamma\text{-Al}_2\text{O}_3$ .**

*Bushra A. Aljurani and Khalid A. Shyaa*

[54-60](#)

---

**Top-down Approach and Good Governance Concept towards Sustainable Construction Waste Management**

*Seow Ta Wee, Ng Lee Shan, Tan Lai Wai and Goh Kai Chen*

[61-68](#)

---

**Mechanical properties of *Sida Rhombifolia*/*Prosopis Juliflora*/glass fiber reinforced sandwich composite laminates**

*R Gopinath, K Ganesan, S.S. Saravana Kumar and R Poopathi*

[69-76](#)

---

**The Role of CBBE in Building Loyalty to Political Brand: A Proposed Framework**

*Abdelbaset M. Alkhawaldeh and Salniza Bt Md. Salleh, Fairol bin Halim*

[77-88](#)

---

**CT Open Bay Detection Logic in Centralised Low Impedance Bus Bar Protection IED**

*K.N. Dinesh Babu, A.B. Sudarshan and Jorge Cardenas*

[89-96](#)

---

**Evaluation of Diode Model Parameters for a Solar Panel Simulation**

*Thangavel Bhuvaneswari, Venkatasessiah and P.Velraj Kumar*

[97-101](#)

---

**Suitability of Ground Water for Irrigation Purpose in Veadasandur Block, Dindugal District**

*Dr.P.Sureshkumar and M.Periyasamy*

[102-105](#)

---

**Enhance the Performance of Proxy Mobile Ipv6 using Extended Label Switching**

*L.K.Indumathi and Dr.D.Shalini Punithavathani*

[106-110](#)

---

**An Energy Efficient Wireless Body Area Sensor Network using on Demand Sleep-Awake Algorithm**

*Karthik J. and Dr.A.Rajesh*

[111-115](#)

---

**Cognitive Radio Network Application to Disaster Recovery Using Software Defined Radio**

*Ramasamy Mariappan*

[116-121](#)

---

**Development of Spad Values for Rice Variety Co (R) 48 while using Various Sources of Organic Manures in Comparison with Rdf and Inm at different Growth Stages of Rice for Attaining Optimum Yield**

*S. Alagappan and R. Venkitaswamy*

[122-125](#)

---

**Investigation of Medium Domination Number of some Special Types of Graphs**

[126-129](#)

---

**A Comparative Approach of Pwm and Svpwm Control for Nine Switch Inverter**

*M.Nirmala, Dr.k.Baskaran and K.Saranya*

[130-135](#)

---

**Harmonic Minimisation in Six Switch and Nine Switch Inverter Using SHE-PWM**

*M. Nirmala, K. Baskaran and R. Jebakumari*

[136-141](#)

---

**Enhanced Routing Algorithm To Reduce Number of Transmission In Manet**

*R.Sundar and Dr.A.Kathirvel*

[142-146](#)

---

**Transformational Leadership And organizational Citizenship Behavior: The Role Of Employee Engagement**

*Dr. Mu. Subrahmanian, Mr. I. Yabesh Abraham Durairaj, Dr. T. Thiruvankadam*

[147-155](#)

---

**Spoofing Assault Identification And Limiting Several Adversaries In Wireless Networks**

*M.Varun Kumar, V.G.Navaneeth, D.Muralidar*

[156-160](#)

---

**Curvelet Transform Based Image Fusion With Noise Reduction Using Gaussian Filter**

*Rajesh. K and C G Ravichandran*

[161-166](#)

---

**Empathizing Customer Experience: A Critical Stride Of Customer Experience Management**

*Dr. Pulidindi Venugopal and M. Varun Kumar*

[167-173](#)

---

**Impact of Different Sources of Organic Manures In Comparison With Trri Practice, Rdf And Inm on Growth, Yield and Soil Microbial Populations In Rice- Greengram Cropping System**

*S. Alagappan and Dr. R.Venkitaswamy*

[174-181](#)

---

**Comprehensive Faculty Development And The Need For Innovations**

*Jayaprakash Jala, Edison Gundabattini, Varun Kumar M*

[182-186](#)

---

**Snalysis of ecg for securing wireless body sensor network (WBSN)**

*Narasimman M, Thanveer Ahmed LR, Guru Rajkumar M, Varun Kumar M*

[187-190](#)

---

**The role of ict tools in teaching in india**

M.Varun Kumar, V.G.Navaneeth, M.Narasimman, L.R. Thanveer Ahmed

[191-193](#)

---

**Design of PI, PID and Fuzzy Controllers for Spiral Type Heat Exchanger**

*Dr.M.Thirumarimurugan, N.Bagyalakshmi, S.Sathya*

[194-198](#)

---

**The Degree of Middle East University's Application of its General Policy Axes: the Academic and Administrative Staffs' Point of View**

*Yacoub Nasereddin*

[199-206](#)

---

**Neuro Model Based Controller For A Conical Tank Level Process**

*Geethanjali Karuppaiyan and Dr.S.Srinivasan*

[207-217](#)

---

**An Extended Hybrid Intrusion Detection & Prevention System for Distributed Network**

*A. Thomas Paul Roy and Dr.K. Balasubadra*

[218-224](#)

---

**ALife Portrait of Remote Communities: A Study in Indonesia**

*Rauf A. Hatu*

[225-234](#)

---

**Callogenesis in leaf explants of *Annona glabra* L.**

*Maurício Reginaldo Alves dos Santos, Maria das Graças Rodrigues Ferreira, Andrina Guimarães Silva Braga*

[235-238](#)

---

**Comparison of methods for estimating total volume of *Araucaria angustifolia* (Bertol.) Kuntze**

*Ana Paula Marques Martins, Luciane Naimeke Schmidt Vinicius Costa Cysneiros, Sebastião do Amaral Machado Afonso Figueiredo Filho*

[239-244](#)

---

**Effects of Psidium Guajava (Guava) and Moringa Oleifera Leaves Extract on the Corrosion Susceptibility of Mild Steel in an Acidic Medium**

*N.E. Idenyi, P.A. Nwofe, P.E. Agbo and H.K. Idu*

[245-250](#)

---

**Synthesis and Characterization of 1-benzylbenzimidazole complexes with some transition metal salts**

*Abbas Washeel Salman*

[251-255](#)

---

**Development of Digital Elevation Model (DEM) from Aerial photographs using Photogrammetry Technique**

*Karuppasamy.S and Kaliappan.S*

[256-264](#)

---

**Factors Contributed to the Inaccessible National Parks in Malaysia: Experts' Perspectives**

*Seow Ta Wee and Shalini Sanmargaraja*

[265-271](#)

---

**A Novel Method to Managing Semi Structured Data in Distributed Environment using Modified Tree based Association Rules (TAR)**

*E. Seshatheri and Dr. T. Bhuvaneshwari*

[277-286](#)

**Geophysical Solution to Lack of Drinkable Water in Standard Secondary School, Abakaliki, Nigeria**

*S.O. Agha, P.A. Nwofe and C. Agha*

[287-290](#)

---

**Pattern Viable Restoration (PVR) Technique with Novel Viable Key (VK) Script for Secured Data Transmission in WSN**

*A. Vijayalakshmi and P. Vanaja Ranjan*

[291-299](#)

---

**Influence of the Age on Specific Gravity and Janka Hardness in the Wood of Teak (*Tectona Grandis* L.F.) for Floor**

*Victor Gonçalves Cremonez, Linéia Roberta Zen, Ricardo Jorge Klitzke, Marcio Pereira da Rocha and Morgana Cristina França*

[300-305](#)

---

**Prevalence of obesity in Children in Madinah Ksa A Retrospective Study**

*Abdul Hadi Hessen Almazroea*

[306-309](#)

---

**Efficient Adsorption of Copper and Nickel Ions from Aqueous Solution Using Sulfonated Poly (vinyl alcohol)/Chitosan/Arabic Gum as Adsorbent Membrane**

*M.A. Abu-Saied, M. Elsayed Youssef, M.E. El-Naggar, Ryszard Wycisk, Gamal Abd El-Naim Fatma M. El-Demerdash, Moustafa M. Abbassy and Haytham Bassuony*

[310-320](#)

---

**Classification of Cardiac Arrhythmia Using Wavelets and Probabilistic Neural Network**

*I.S. Siva Rao, T. Srinivasa Rao, P.H.S. TejoMurthy and P.V.G.D. Prasad Reddy*

[321-330](#)

---

**Unconventional Modeling and Stress Analysis of Femur Bone under Different Boundary Condition**

*M. Ragulkumar*

[331-335](#)

---

**Robust Reconfiguration Scheme for Distribution Networks using Biogeography Based Optimization**

*S. Arul Vizhiy and R.K. Santhi*

[336-342](#)

---

## **A Detailed Survey on Cluster Based Malicious Node Detection in Wireless Sensor Networks**

*R. Rohini and R.K. Gnanamurthy*

[343-348](#)

---

## **Feature Extraction and Analysis of Speech Quality for Tamil Text-To-Speech Synthesis System using Fast Fourier Transform**

*K.C.Rajeswari and Dr.P.Uma Maheswari*

[349-356](#)

---

## **Web Program Based Feature Telephony Framework**

*M. Krishnaraj, R.sathisKumar, S. Sathya Moorthy and S. KaviArasan*

[357-361](#)

---

## **Analysis of Primary User Modeling Activity on Cognitive Radio Wireless Networks**

*Danilo López S. and Edwin Trujillo*

[362-370](#)

---

## **Compatibility Between Wood Volume Estimation Methods In A Eucalyptus Stand**

*Eder Pereira Miguel, Ana Luiza Noce Cerdeira, Gileno Brito de Azevedo,  
Glauce Taís de Oliveira Sousa Azevedo, Humberto Angelo,  
Reginaldo Sérgio Pereira, Alba Valéria Rezende*

[371-376](#)

---

## **High Gain Multi Input Converter for Induction Motor Drive Systems**

*S. Durairaj, Dr. Y Rabinson, Dr. P. Sridharan*

[377-382](#)

---

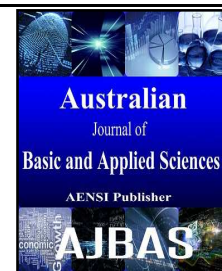
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### A Life Portrait of Remote Communities: A Study in Indonesia

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#### ABSTRACT

Isolated customary communities exist in almost all parts of the world, including in Indonesia. Such communities are usually located in hard-to-reach areas, for instance, in forested or mountainous areas. In these areas, the geographical nature of the surroundings makes it difficult for community members to access necessary services, including health, economic, education, and economic services. This condition is experienced by the isolated community of Pangahu in the Gorontalo Province in Indonesia. Pangahu Village is a poor and under-developed community. The area has limited access because of a poor transportation and communication infrastructure, low economic status, low educational level, and limited health facilities. As a result, most of the members of this community have succumbed to the existing situation and no longer consider their future. The most appropriate approach to this situation is empowerment in the aspects that are required to live. However, all empowerment efforts should consider the local wisdom, social values, and cultural regulators that are inherited from generation to generation. Accordingly, the difficulties that occur in many aspects of these community member's lives will be prevented.

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#### INTRODUCTION

As an agricultural country, Indonesia has a geography with a diverse topography. The territory that is scattered on several islands and isles is a source of natural wealth. Nevertheless, the geography also creates a challenge to implement equitable development in various sectors (social, economic, and political) that is dedicated to all citizens who are scattered in all corners of the homeland, including the isolated customary communities at Gorontalo.

In 2014, the population of the isolated communities in Gorontalo consisted of 2,505 family heads who are distributed in several regencies, such as Boalemo, Puhuwato, Gorontalo, Gorontalo Utara, and Bone Bolango. Most of the isolated communities stay in the forest, around mountain slopes, swamps, seaside, and coastal areas. In this case, these communities live in a group of five or six houses.

One of the isolated customary communities in Gorontalo is located in Pangahu Village. This community rarely has social contact or interaction with other societies, especially with the people in the village. This community has a limited communication and transportation (road) infrastructure, as well as

health facilities. Most people in this society also have a low economic status and low educational level. This condition causes this society to submit to their existing situation. They even no longer consider their future. In response to this condition, an approach should be created but cannot be directed universally. Any approach should be conducted based on the case in the field. Thus, an approach and planning that is suitable to the life patterns of this community can be constructed.

The advancement of science and technology has marginalized this isolated community. Therefore, empowerment is necessary. Any empowerment should consider the local wisdom of the community. As stated by Tumanggor (2006), the empowerment of an isolated society must consider the local potency (social, economic, and cultural) because cultural values are embedded and difficult to abandon. In this case, a new format should be found to empower the life pattern of an isolated community without ignoring the culture that has been handed down. In addition, empowerment should also involve many parties, such as other societies and communities around the area.

The Directorate of Isolated Customary Community, General Directorate of Social Empowerment of the Republic of Indonesia's Social



Department has created an empowerment program for isolated customary communities. This program is expected to help or change the life patterns of isolated communities so that they can interact with other societies. The main goal of this program is to empower all aspects of community life. Thus, the community can live normally. Moreover, it is also expected that the community can actively engage in the development issues that relate to societal interests or their members in general (Social Department, 2005).

One empowerment strategy is to create a condition that supports the isolated customary community to develop their skills and abilities, so that they can adapt to changes in the social, cultural, economic, and political environments. Research should be conducted to find the factors that support and detract from the empowerment of an isolated community.

Based on this explanation, this study attempts to investigate the life of an isolated customary community in Pangahu Village, Asparaga, Gorontalo concerning the economic, social and cultural aspects. The result of this study is expected to describe the life of the isolated customary community at Pangahu Village to facilitate the formulation of an empowerment program that is suitable to the local wisdom of this community.

### **Methodology:**

This study used a descriptive method with a qualitative approach. A qualitative approach has several characteristics. First, it is intended to give a systematic, factual, and accurate description of the investigated phenomenon. Second, a qualitative approach depicts the facts, characteristics and relations of the investigated phenomenon. Third, the data from a qualitative approach are descriptive in the form of written or spoken words from the observed respondents. These characteristics accord with the purpose of this study that attempted to portray the life of the isolated customary community at Pangahu Village, Asparaga District, Gorontalo Regency, Gorontalo Province.

Regarding the data collection technique, this study used interviews, observations, and documentation. The interviews mainly focused on the respondents' perspective. The researcher acted as a key instrument and directly observed and collected the data. This method was consistent with Bogdan and Biklen (1992) who stated that qualitative research has a natural setting as the source of the data, and the researcher is a key data collection instrument. Meanwhile, the people in the isolated customary community at Pangahu Village, Asparaga, Gorontalo were selected as the respondents.

In analyzing the data, this study used an interactive model. There were three steps of data analysis in this model, namely, data reduction, data presentation, and a conclusion (Miles and Huberman,

1984). These three steps were employed in analyzing the data that were gained from interviews, observations, and documentation. The analysis of the gained data was performed directly and simultaneously (Creswell, 1994).

### **The Origin of the Isolated Customary Community in Gorontalo:**

Pangahu Village in the Asparaga District, was formerly a village in the Paguyaman District, Gorontalo. According to the area's development, the Paguyaman District was divided into several districts. One of these districts was Asparaga.

The peninsula of Paguyawanis flanked by the Boliohutu mountain ranges. For Gorontalo society, this place was considered a refuge for people who disliked Dutch colonization. Parents told various myths regarding this place, and one of these myths was the horror of Boliohutu. There was a belief that not everyone could pass Boliohutu's slopes, only those who had an ability (a certain ability that could thwart an attack by Boliohutu's inhabitants). If a person ascended to the top of the mountain, it was believed that he would not return. The people who live in the Boliohutu mountain ranges are known as the *polahi* (a group that fled into the forest/mountains). Hatu (1998) in his study stated that *polahi* literally means runaway. Some people called *polahi* forest man. Generations of *polahi* lived in the Boliohutu mountain ranges. Nevertheless, some of the *polahi* have interacted with the people in the center of the village to buy salt, for example. The activity of the *polahi* community was usually followed by other communities. For instance, these communities farmed in mountainous areas, such as at Pualam in Pangahu Village, Asparaga, Gorontalo.

The isolated customary community at Pangahu, Gorontalo is located on the path track. This track was crossed by the rattan seekers from various villages. The rattan seekers usually consisted of five to eight people in a group. They would stay for weeks in the wilderness to find forest products. Almost the entire location of the isolated customary community at Gorontalo was the stopover or resting place (*puhuhelia*) for the rattan seekers who had gone to or returned from the forest.

Because of the decrease in forest products and the rising number of rattan seekers, the people on the path track began to perform shifting cultivation. There were three to five people in a group (usually relatives or relatives by consanguinity). At first, they built a hut, known as *wombohe*. This hut was used as a resting place by the farmers. Its size was 3x4 meters, and its height was 1-2 meters. The hut was made from wood or bamboo and had a thatched roof. It did not have a bed or kitchen.

Gradually, the number of the group that stayed in this area increased. Most of these people were in groups.

### ***The Process of Village Formation in Gorontalo:***

In Gorontalo, the village was known as *kambungu*. Before *kambungu* was formed, society had a nomadic life in small families that were known as *ambua*. They lived on hunting and gathering food in nature. Because they were familiar with traditional farming systems, they began to settle in places that enabled them to cultivate the land, such as along the edges of streams. The number of *ambua* then increased because of the gathering of small families or *ngala'a*.

The gathering of small families then formed the *linul*, which was a collection of several *ambua*. The *linul* was headed by an elder and highly respected person, known as the *tauwa lo linul*. This person was respected because of his efforts in uniting *ambua* groups. *Ambua* then became a large group and formed the *kambungu* (village) that was headed by a chief called *Tauda'a*, which is currently known as the Village Head.

The settlement pattern of Gorontalo society was centralized, where the *ngala'a* in the *linula* surrounded the *tauwa lo linula*'s place. This pattern has been used since the kingdom era, when the kingdoms were formed from *linula-linula*. This pattern has also been used by most of the village currently, where the *ngala'a* stayed on the land around the elder person of the village.

### ***The Pangahu Community:***

Geographically, Pangahu Village is located in two areas, which are lowlands and mountain ranges. The distance between the hamlet and the central government is sufficiently distant. The distance between the hamlet and the village is approximately 3 km. The distance between the village and the district town is approximately 12 km. The distance between the village and the capital regency is approximately 50 km. Meanwhile, the distance between the village and the capital province is approximately 200 km.

Based on the secondary data, Pangahu Village consists of 285 family heads (KK). The total population of this village is 1,120 people who comprise 570 males and 550 females. The average population density is 20 family heads per kilometer who are scattered in several hamlets, such as Buluo, Tonala, and Alawahu.

The location of the isolated customary community at Pangahu Village is distributed over several hamlets. 1) Buluo hamlet is located 3 km from the center of the village, which is

precisely above the height of the mountain with a slope of more than 90°. The community consists of 23 family heads with 76 people who are scattered on the mountain slopes. 2) Tonala hamlet is located under the foot of Nantu Mountain and comprises 17 family heads with 39 people. 3) Diangahamlet consists of 5 family heads with 22 people. 4) Alawahu hamlet is located near the Nantu forest, a protected forest that was settled by the Polahi, and includes 5 family heads.

### ***Marginalization of the Pangahu People:***

There are almost no obstacles to reach Pangahu Village, Asparaga, Gorontalo. The transportation infrastructure is available although it is not usable as a communication facility for society. Nevertheless, there is only one main road to reach the settlement and the work place (agriculture or plantations).

Pangahu Village has an educational facility, which is the State Primary School (SDN) No 15 Asparaga. This school has a permanent building with a capacity of six classes. The students are from Asparaga, especially the students who live in the center of the village. Most of the children in the isolated customary community do not use this facility because of the distance between their settlement and the school, which is approximately 4-5 km. The children also do not continue their studies at a higher level although various options of secondary school are provided in the Asparaga District.

Regarding religion, most of the society in Pangahu Village, particularly the isolated community, are Muslim. A mosque with a tin roof is located in the center of the village. The distance between the location of the mosque and the isolated community is 5-6 kilometers. The mosque can only be reached by walking. Although most of this society is Muslim, they still have faith in unseen things, especially when they have a problem. When there is a sick person, for instance, the community believes that he is plagued by spirits. Thus, the community prefers to use shamans by using material that is gained from the natural surroundings. Regarding this belief, one of the people (BI) who lives on the mountain top stated:

We stayed hereditarily in this place by respecting each other, particularly parents. Some parents have occult sciences relating to the spirit, and people believed it. We only gave a glass of water to the sick person, whether he has a stomach-ache, headache, and vomit. There was also the treatment by using spices, such as turmeric, ginger, and cloves. Before these spices were given to the sick person, it was first

prayed. Then, it was drunk by the sick person or smeared on the affected part.

From the above statement, it can be seen that the isolated community at Pangahu Village still believes in the spirit. Nevertheless, some people go to the health center in the village when they are sick.

Clean water and health facilities are the basic needs of this society. Concerning clean water, most people in the isolated community use the water from the river to drink, bathe and wash clothes. Meanwhile, the health facility is located in the center of the district or village. Most people in the isolated community do not use this facility because they generally prefer treatment by a shaman.

### ***The Economic Conditions of the Pangahu Community:***

A resource is something that has use value. Natural resources are the result of the overall physical, chemical, biological, and social processes that formed our environment. Cutter and Renwick (2004) stated that natural resources are all derived from the earth, biosphere, and atmosphere, and their existence depends on human activities. All parts of our natural environment (i.e., seeds, trees, soil, water, sun, and rivers) are natural resources. The existence of natural resources is highly dependent on the management form that is chosen by human beings, including the people who live in isolated areas and regions.

In the life of an isolated community, the natural environment largely determines the life order. This influence is because isolated communities can continue their lives only with a good natural environment. Concerning the isolated communities at Pangahu Village, their lives are highly dependent on natural resources, such as agriculture. These communities use

nature's potency maximally because it is a source of a family's income.

Most of the isolated communities at Pangahu Village have planted various products, such as corn, pepper, banana, cocoa, and coconut. Some of these communities have also hunted or found rattan in the forest and made huts in the forest as resting places. Nevertheless, along with this society's development, the number of rattan in the forest has decreased. Responding to this condition, this society has gradually shifted to farming by planting corn, cassava, sweet potato, and other crops.

Land cultivation is done traditionally by using tools such as axes, hoes, and spades. The crop then is kept to be consumed by family. Nevertheless, some of the crops are also sold. The income is used for other needs, such as buying cloth.

Corn is an excellent product for the isolated communities at Pangahu Village. Similar to land cultivation, planting corn is also done traditionally, particularly in clearing bushes. Hoes (*popati*) and machetes (*wamilo*) are used.

As an excellent product, corn became the main income for the isolated community at Pangahu Village. Corn can grow well in the loose soil structure and agricultural land with a slope above 90°. These land characteristics are appropriate for the geographical condition of Pangahu Village. Corn seeds can also be easily gained, especially from the farmer around the isolated community at Pangahu Village. This plant can also be easily marketed when it is not sufficiently ripe. In addition, planting corn has become the main job that was performed hereditarily. Corn can also be used as a main food. In this case, corn is manually processed by mill, and the food is known as "*Illabaaloobinte*."



**Fig. 1:** Machete (*wamilo*) as an agricultural tool.  
(Research Documentation Photo in early January 2014)



**Fig. 2:** *Illa Lobintte*, the main food of the isolated communities of Pangahu Village, Asparaga, Gorontalo. (Research Documentation Photo in early January 2014)

In addition to the machete and hoe, the society at Gorontalo also uses the *popadeo* as a traditional agricultural tool. The *popadeo* is utilized in the season of land cultivation. Unfortunately, with development, the *popadeo* is no longer utilized by farmers who have a large agricultural area or who live in an accessible area. Most farmers have shifted to tractors, and the *popadeo* is only used by farmers in isolated areas.

Regarding social and economic life, this isolated community generally has a simple life, which can be

observed from several factors. 1) These communities are not familiar with a banking system or economic institutions, such as a cooperative. As a result, sufficient economic development cannot be created. 2) Money transactions or money exchange is conducted in the traditional market, where the people sell their crops. 3) Most people in the isolated community do not have a permanent home. Their homes are generally thatched-roofed huts (*wombohe*).



**Fig. 3:** The *popadeo* is an agricultural tool that is used by the Pangahu isolated community. (Research Documentation Photo in early January 2014)



**Fig. 4:** The *wombohe* is a temporary resting place for the Pangahu isolated community. (Research Documentation Photo in early January 2014)

### **Local Authorities in the Pangahu Community:**

The leadership system in the Pangahu isolated community is still traditional. The leader is selected from a group of old people (*Mongopanggola*) and is considered to have broad knowledge of the prevailing customs. In addition, the leader should also receive a blessing from the traditional, religious, and community leaders. The leader is called the village head or *tauda'a*. Based on the customary law in Gorontalo (*buto'olipu*), the *Kimalahat* title is given to a person who becomes *atauda'a*. This title is given by custom parties in the Gorontalo district (Ibrahim, 2002).

The head of the village is helped by a village secretary, who is called the *dulutuli*, to manage village administration and other matters that relate to the village. Every village has a mosque, a public hall (*bandayo*) as the administration center, and a meeting hall as a place to discuss the issues of village development.

Both the public and meeting halls are located in the center of the settlement and along the village roads that are consistent with the housing of the village. Thus, these halls are accessible to all people who come from the various hamlets of the village. There is a field near the public hall. This field is used as a center for sports, art, and religious activities.

The traditional leadership of Pangahu Village has caused this society to lag behind because of the lack of knowledge and skill that is possessed by the leader. Concerning decision making, the leaders usually ask for suggestions from the customary, religious, or community leaders. Therefore, when there is a program that is unsuitable to the prevailing customs in society, it cannot be implemented.

The leadership pattern of Pangahu Village is dominated by physical and science ability. In this case, science does not refer to the knowledge that is gained through formal education but the ability to cure diseases and repel spirits.

### **The Social and Family Relationships:**

The descent principle in Gorontalo society is bilateral and parental. The male and female families (between husband and wife) have a similar relative relationship. However, in certain cases, the male's family is treated better, such as in inheritance. Gorontalo people have certain relative relationships with specific characteristics that differentiate them from other relative groups.

The isolated community in Gorontalo comprises several families who have relative or consanguineous relationships. This relation is shown by the family name as a symbol of relatedness. Similar to the isolated communities in Gorontalo, the community of Pangahu Village also has its own relative

relationship, which is known as *Ungala'a*. *Ungala'a* consisted of several families who have had children and grandchildren, called *ngala'a*. Most of these families have the same family name.

The family relationship in Pangahu can be seen from the society's settlement. The homes of small families are usually located around the house of the elder person who is presumed the head of the family. Parents are role models in daily activities, such as in processing agricultural products. In planting day, for instance, the elder person was considered the person who knew the problems of the natural environment. There are even certain days for planting corn and other plants.

The social relation between village society and isolated society is well intertwined, and they still help one another. It can be observed from several activities, such as repairing homes, helping a person who had an accident or is sick, and helping in activities on agricultural land. This social relation indicates the high solidarity in society among either individuals or groups. This observation is consistent with Durkheim as cited in Johnson (1980) who stated that social solidarity is a relation between individuals and/or groups that is based on a possessed moral sense and trust that is strengthened by shared emotional experiences. Solidarity, however, emphasizes the relation among individuals and groups. Solidarity is also grounded in the shared connection in life that is supported by moral values and a belief in society. The actualization of a shared relation is emotional experiences that can strengthen relationships.

In Gorontalo, social solidarity and mutual helping is known as *huyula* (cooperation). This concept is manifested in various forms, such as the following: 1) *Ambu*, helping one another for collective interests; 2) *Hileya*, the spontaneous helping of one another; and 3) *Tiayo*, helping a group of people for one interest.

*Aluya* (helping one another for a collective interest) can be seen from the voluntary works in cleaning village offices, waterways or roads. These activities are performed by all people in the community without considering their educational, social, and economic statuses. *Hileya* (the spontaneous helping of one another) can be observed from the community's attention when a family member or neighbor had an accident. People usually come to this aggrieved person to support him. They buy food and stay for several days, and they also cook so that the aggrieved person does not need to cook. Meanwhile, *tiayo* only occurs when a group of people help a person perform his job. The helped person only provides some food and is



also expected to help the people who assisted him.

### ***SurvivalSkills amidst Marginalization and Poor Conditions:***

Communities have various regulations that control their lives. For the community who lives in the forest and mountain ranges, land is the most important factor that is useful for their lives. This condition is also experienced by the Pangahu isolated community. For them, agricultural land is the capital to survive. Agricultural land can also be maintained for a long period of time and can be passed to subsequent generations. These factors imply high reliance on the land in terms of the social and economic aspects. As stated by DP (48 years old), for people who live in the Tonalahamlet:

“For isolated communities, agricultural land should be well kept since it supports our daily life.”

Theoretically, two rationales created the debate among some experts regarding the shift of the life order. These rationales can be used in describing and analyzing rural societies, including the isolated customary communities of Pangahu Village. The first rationale came from Geertz (1983) who conducted a study on shared poverty and agriculture involution. The result of Geertz's study was consistent with the study that was conducted by rural

economists from Japan, Hayami and Kikuchi (1981). Geertz's study found that capital changes the social stratification of rural society. Nevertheless, this change does not destroy the homogeneity of rural society. Geertz (1983) also found that social polarization in rural areas does not occur because of the strong traditional relations of society. The second rationale was stated by Collier (1996) who indicated that stratification change results from rural development and tends to lead to social polarization that is indicated by the imbalanced level of economic prosperity and the domination of society's assets.

Based on the opinion of these two experts, the cultural and social values of the Pangahu isolated community would shift if these people moved to other places that were far from their prior location. However, a change of their life order may occur if they stayed in their current place.

The Pangahu community did not migrate to another place. With their underdevelopment, the Pangahu community has still maintained the emotional and relative relationship between the patron and the client that has created a quiet life that is free from hunger. If they move outside the village, the Pangahu community would not be ready to cope with the uncertainty of life.



**Fig. 5:** The home condition of the Pangahu isolated communities. (Research Documentation Photo in early January 2014)



**Fig. 6:** Pangahu farmers in agricultural land. (Research Documentation Photo in early January 2014)

The effort of the Pangahu isolated community to survive is driven by several factors. 1) Their relative system strongly adhered to life in the society, particularly the farmers who used the *ngulaa* system,

where the relative relationship was still maintained hereditarily in their area. 2) The reluctance to move to another place is also a factor. As previously stated, if the Pangahu migrated to another place, they would

not be ready to cope with the uncertainty of life, especially to fulfill daily needs. 3) The land that was given hereditarily by the parent is also another survival factor. The parents have even asked their children to maintain the agricultural land to fulfill their daily needs. 4) Finally, the poverty of Pangahu society is a survival factor. In this case, this society is willing to live in poverty as long as they remain together and socially interact.

### ***The Empowerment of the Pangahu Community Based on Local Wisdom:***

Local wisdom has been flourishing in recent decades. This conversation is often associated with local society. This conversation is also defined varyingly according to the local wisdom in each region that has become the societal tradition. The local values that are presented in the community are the identity of a region/community that is rooted in trust, heritage, and habitual values in society. These values became guidance in daily life.

According to Keraf (2002), local wisdom is a form of knowledge, belief, understanding, insight, custom, or human ethics that lead human behavior in the ecological community. Local wisdom addresses not only society's knowledge, human understanding, and good relationships among humans but also how the relations among all inhabitants of the ecological community can be built.

Meanwhile, Wahono (2005) stated that local wisdom is the knowledge and management strategies of the universe in maintaining the ecological balance that has been tested by various disasters, distractions, and human negligence for centuries. Local wisdom addresses not only ethics but also norms, actions, and behaviors. Thus, local wisdom is similar to a religion that guides humans to behave in daily life and determines further human civilization with the dynamics of development in social life generally and the isolated community life particularly.

Development problems, mainly sustainable development, focus on the process and impact of any development activities that provide continuous benefits for humans and minimize the suffering that is experienced by humans with the natural resources and environment as a whole. In this concept, harmonizing focuses on human awareness to create a balance in the interaction between humans and nature so that both of them have long-term survival (Departemen Sosial RI, 2003; Triarti, 2003).

In fact, the failure of development, particularly in the development of isolated areas, is indicated by the stagnation of social defenses, which indirectly show the weak role of social defenses in development. Therefore, development should be people-centered development (Korten and Syahrir, 1998) that focuses on how to create society participation in all aspects regarding their local wisdom and

values, such as in the isolated communities of Pangahu.

In Gorontalo, there are the terms *panggoba* (the belief that is used in determining a good day for planting) and *lowanga* (the prohibition of doing something on a certain day or at a certain time). These local wisdoms became the belief that was held hereditarily by Gorontalo society, especially for the community in the isolated area. *Panggoba* was believed more by the farmers in the village to determine the days for planting, according to DA (58 years old), one of the Pangahu people.

In determining the day for planting, the farmers observe the stars in the sky. If there are five to eight adjacent stars in the sky, this indicates that the next day (tomorrow) is a good day for planting corn or any other plants. Many stars in the sky are known as *taadaata*, which means that the planting will grow well. Meanwhile, *lowanga* is used to determine the best day or time in doing something. In building a home (*momayango*), for instance, the community considers certain days and does not build a home on Fridays because they believe it will bring disaster.

Based on this explanation, local wisdom should be maintained because it has become social capital for the Pangahu isolated community. Therefore, this local wisdom should be considered by the individuals who want to empower the isolated community so that the social and cultural values that are owned hereditarily by this community are not lost.

### ***Conclusion:***

From the explanation of the isolated customary community of Pangahu Village, several observations can be concluded. First, the isolated community of Pangahu lives in the forest and mountain ranges. The people have limited social contact or interaction with other societies, mainly the societies in the center of the village and district.

Second, the life pattern of the community has been impeded by the lack of communication and transportation infrastructure, low economic condition, low education level, and limited health facilities. As a result, most of the people submit to these facts and no longer consider their future.

Third, the economic conditions do not support the society's daily life. This society has only a limited livelihood and can only hunt, farm, or collect forest products. Moreover, the agricultural tools that they use are still traditional.

Fourth, the society has a strong relative system. This system is particularly used in the portion of society with an *ungalaa* system, where the people in a community or area still have a relativity that is maintained hereditarily.

Fifth, the society of the isolated community does not migrate or move to another place because they are not ready to cope with the uncertainty of life, especially to fulfill daily needs.

**Suggestion:**

The society in the Pangahu isolated community is dominated by farmers. Corn is one of the excellent products from this area. In this case, the government can develop this society's potential by giving excellent corn seeds and modern agricultural tools to support the agricultural activities that are performed hereditarily by this community.

The communities' empowerment is needed to improve the life pattern of the isolated community. It is expected that the isolated community can provide similar services to the community that lives in the center of the village, such as social, economic, cultural, and political services.

It is recommended that the empowerment of the isolated community of Pangahu does not destroy the cultural values that have been instilled in their lives to avoid the occurrence of new problems.

Transportation infrastructure should be provided because it will enable the community to sell their crops to the market in the center of village. Moreover, transportation infrastructure will facilitate the community's social contacts with the society in the center of the village or other villages.

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**REFERENCES**

Bogdan, R. and S.K. Biklen, 1992. Qualitative Research for Education: An Introduction to Theory and Methods. Allyn & Bacon, Boston.

Collier, W., 1996. Pendekatan Baru dalam Pembangunan Pedesaan di Jawa. Chalia Indonesia, Jakarta.

Creswell, J.W., 1994. Research Design: Qualitative and Quantitative Approaches. Sage Publications, London.

Cutter, S.L. and W.H. Renwick, 2004. Exploitation, Conservation, Preservation: A Geographic Perspective on Natural Resource Use. 4th Edn., John Wiley & Sons, New York.

Departemen Sosial RI, 2003. Keputusan Menteri Sosial No.06/PEGHUK/2002. Tentang Pedoman Pelaksanaan Pemberdayaan Komunitas Adat Terpencil. Ditjen Pemberdayaan Sosiosial Departemen Sosial, Jakarta.

Departemen Sosial, R.I., 2005. Program Pemberdayaan Fakir Miskin. Direktorat Bantuan Sosial Depsos RI, Jakarta.

Geertz, C., 1983. Influsi Pertanian: Proses Perubahan Ekologi di Indonesia. Brhatara, Jakarta.

Harian Ujung Pandang Fajar. 1991. *Laporandari Rakyat dan Tanah Paguyaman Gorontalo. Ada "Polahi" Turun Temurun di Pegunungan*. Published Friday.

Hatu, R., 1998. Pola Hidup Masyarakat Polahi Di Kecamatan Paguyaman Kabupaten Gorontalo. Program Pascasarjana Universitas Airlangga, Surabaya.

Hayami, Y., M. Kikuchi, M., 1981. Asian Village Economy at the Crossroads: An Economic Approach to Institutional Change. University of Tokyo Press, Tokyo.

Ibrahim, R., 2002. Pola Hubungan Ungala'a dan Huyulapada Masyarakat Petani di Sekitar Pabrik Gula Tolangohula Kecamatan Tolangohula Kabupaten Gorontalo. Thesis, Program Pascasarjana Universitas Padjadjaran, Bandung.

Johnson, D.P., 1980. Teori Sosiologi Klasik dan Modern. Diindonesiakan oleh Robert M.Z. Lawang. Gramedia, Jakarta.

Keraf, A.S., 2002. Etika Lingkungan. Penerbit Buku Kompas, Jakarta.

Korten, D.C. and Syahrir, 1998. Pembangunan Berdimensi Kerakyatan. Yayasan Obor Indonesia, Jakarta.

Miles, M.B. and A.M. Huberman, 1984. Qualitative Data Analysis: A Sourcebook of New Methods. Sage Publications, Beverly Hills, CA.

Triati, E., 2003. Sasi, Bentuk Kearifan Lokal Komunitas Adat Terpencil di Provinsi Maluku. Jurnal Sikat Edisi, X: xx-xx.

Tumanggor, R., 2006. Memberdayakan Kearifan Lokal bagi Komunitas Adat Terpencil. Makalah Semiloka Nasional Pemberdayaan KAT bagi Kepala Sub. Dinas Sosial dan Unsur Perguruan Tinggi. Kementerian Sosial RI, Jakarta.



Wahono, F., 2005. Pangan, Kearifan Lokal dan Yogyakarta.  
Keanekaragaman Hayati. Pustaka Rakyat Cerdas,