

# The Profile of Upper Integument Lip of Baduy Tribe, and The Nearby Living Sundanese From South Banten, West Java, Indonesia

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## ABSTRACT

Face profile is determined especially by the lower third of the face. In this part of the face, the Profile of the Upper Integuments of Lip (PUIL) is the most important. The profile of the lip can be used to classify population groups. The objective of this study is to determine PUIL, which is the size of the angle formed by the profile of the upper integument of lip with the Frankfurt Horizontal Plane, in subject of 43 Inner Baduys; 92 Outer Baduys; and 135 Nearby Living Sundanese of South Banten. The subejects were measured by using a selfdesigned instrument called Fasiogoniometer. The result of this study showed that PUIL, in Inner Baduy and Outer Baduy compared with Nearby Living Sundanese are significantly different, but between Inner Baduy and Outer Baduy is not significant. Inner Baduy, Outer Baduy and Sundanese are procheili, but Inner Baduy and Outer Baduy are more procheili than the Nearby Living Sundanese. The result of this study supports the sociocultural and historical background of population groups in South Banten, West Java, Indonesia.

## INTRODUCTION

The Baduy is an isolated tribal ethnic group living in an isolated inland area in Kanekes village, South Banten, West Java Province, Indonesia. Taboos and prohibition order has separated this group from nearby living Sundanese<sup>1,2,3,4,5</sup>.

Based on the Two Migration Theory about the origin of the Indonesian people<sup>6,7,8,9</sup>, and on cultural anthropology<sup>10,11</sup>, the Baduy is classified as Protomalay and the Sundanese is Deuteromalay. Historically and socioculturally (language, historis, culture, and religon) the Baduy is part of the Nearby Living Sundanese who has isolated themselves and settled down in Kanekes<sup>2,12,13</sup>.

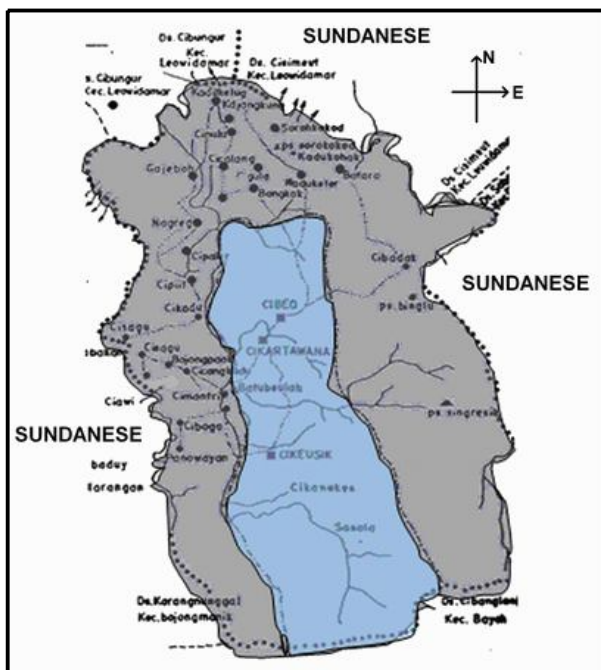


Figure 1 :  
The map of Kanekes village (Baduy). Inner Baduy (light colour); Outer Baduy (medium colour), and Nearby Living Living Sundanese (white colour).

The Baduy society consists of two groups. Those are the Inner Baduy who is the nucleus of the Baduy, and the Outer Baduy as complement. The kinship system and marriage system of the Baduy is endogamy. Infringement against this prohibition order will cause an Inner Baduy sent into exile to Outer Baduy, and an Outer Baduy expelled out of Kanekes<sup>13, 14</sup>.

The objective of this study is to determine and compare the Profile of the Upper Integument of Lip (PUIL) between Inner Baduy (IB), Outer Baduy (OB), and Nearby Living Sundanese (NS). The PUIL is part of the lip, and its form conform with the race, and it is useable in comparing groups of people<sup>15, 16</sup>.



Figure 2 : Writer with a group of Inner Baduy in their “huma” (dry field).

## METHOD

The measurement was conducted to 270 randomly sampling subjects consist of 43 Inner Baduy (IB), 92 Outer Baduy (OB), and 135 Nearby Living Sundanese (NS). The criteria of subject sample is : age between 17-30 years; no facial defect that will cause measurement error; decendant of at least two generations of the population group (IB, OB, or NS).

The subjects were measured by using a selfdesigned instrument called Fasiogoniometer (Figure 3)<sup>17</sup>, which is especially designed to measure the angle between each part of the face and the Frankfurt Horizontal Plane (FHP). The design of instrument is simple and it is very easy to use, and very practical and portable, because we can detach this instrument into four parts. The material for this instrument is rigid, light, and strong. Reliability test in stability of measurement is good<sup>17</sup>.



Figure 3 : Fasiogoniometer used in measurement. Two bars which can slide to each other represent Frankfurt Horizontal Plane (1 tragon point and 2 orbitale points). The base of the top end arc paralleled to the measured surface. The scale of top end arc and lower end arc determine the size of the angle.

Some points of orientation were used in measurement. Profile line of the upper of lip is the line that pass Labrale inferius (ls) and subnasion (sn). Frankfurt Horizontal Plane is the plane that pass tragon (tr) and orbitale (or). We only used one tragon point and two orbitale point. By using Fasiogoniometer we can determine the size of the angle formed by the profile line of the upper integument lip (sn-ls) with the Frankfurt Horizontal Plane (FHP).

## RESULT AND DISCUSSION

The subjects in each population group are divided into three categories (class) those are : extreme procheili (value =  $30^{\circ} - 49,9^{\circ}$ ); mild procheili (value =  $50^{\circ} - 69,9^{\circ}$ ); and less procheili (value =  $70^{\circ} - 89,9^{\circ}$ ). In each population group, the mild procheile is the most represented, the second is the less procheili, and the last is the extreme procheili (very rare). IB, OB and NS are mild procheili (Table 1). The PUIL in Mongoloid is mild procheili, in Negroid extreme procheili, and is Caucasoid is orthocheili<sup>15,16</sup>.

Prognatism of the alveolus caused procheili. Soelarko<sup>20</sup> who studied the position of the tip of Dentes canini in upper jaw revealed that in Indonesian the position of the tip of Dentes canini in upper jaw is always anterior to orbital plane (mean = 11,62 mm). This study agree with the study of Soemardi<sup>21</sup> that revealed alveolar prognatism in upper and lower jaw in Indonesian people. In accordance with Snell<sup>20</sup>, profile of maxilla in Caucasoid is nasal orthognatism with alveolar mesognatism, in Mongoloid nasal orthognatism with alveolar prognatism, and in Negroid nasal mesognatism with alveolar hyperprognatism. Negroid extreme procheili, and Caucasoid is orthocheili<sup>15,16</sup>.

Table 1 :Percentage of PUIL in each population group Inner Baduy (IB), Outer Baduy (OB) and Nearby Living Sundanese (NS).

Classification	IB n = 43	OB n = 92	NS N = 135
Extreme Procheili ( $30^{\circ} - 49,9^{\circ}$ )	2,3	9,8	0,7
Mild Procheili ( $50^{\circ} - 69,9^{\circ}$ )	69,8	71,7	51,9
Less Procheili ( $70^{\circ} - 89,9^{\circ}$ )	27,9	18,5	47,4

The value of PUIL =  $90^{\circ}$  means that the inclination of upper integument lip is vertical, and if the value of the PUIL less than  $90^{\circ}$  means that the inclination of upper integuments lip incline posteriorly (procheili). The mean of PUIL in IB =  $63,70^{\circ}$ , OB =  $61,73^{\circ}$ , and in NS =  $67,64^{\circ}$ , so that the PUIL in IB, OB, and NS is procheili (Table 2). According to Garna<sup>2,3</sup> and Danasasmita<sup>13</sup> the Baduy was the intermixture between local population with evacuated population who came to South Banten from North Banten when Moslem of Demak and Cirebon conquest North Banten in 1527 AC<sup>18,19</sup>.

Table 2: The difference of mean values of PUIL between Inner Baduy (IB), Outer Baduy (OB) and Nearby Living Sundanese (NS).

	IB	OB	NS	
n =	43	92	135	
x =	63,70	61,73	67,64	F (calculated) = 14,75 P < 0,001 (vs) ( IB – NS ) ; ( OB – NS )
SD =	7,6	9,2	7,7	

n = sample size; x = mean value; SD = Standard Deviation; vs = very significant

Although the PUIL in IB, OB, and NS is procheili, however the statistical test between them reveals :

1. The PUIL between IB and NS is very significantly different (  $P < 0,001$  )
2. The PUIL between OB and NS is very significantly different (  $P < 0,001$  )
3. The PUIL of IB and OB is same (not significant  $P > 0,05$  )

The PUIL in IB and OB is more procheili and different than the PUIL in NS. It means that the family relation between IB and OB is closer than between IB and NS or between OB and NS.

The close family relation between IB and OB is because of :

1. The criteria of being a member of Baduy society is "Sunda Wiwitan" (Original Sundanese) in the meaning of generation and relation <sup>13</sup>.
2. The kinship system of the Baduy is endogamy. The IB married only with the member of IB society or with OB who is descendant of IB <sup>2, 14</sup>. It is impossible for OB who is not a descendant of IB to become a member of IB society. In such a manner it is impossible for some one who is not a member of Baduy society to become a member of Baduy society <sup>13, 22, 23</sup>.
3. Infringement against the prohibition order will cause an IB sent to exile to outer Baduy, and for an OB expelled out of Kanekes <sup>1, 2, 13, 14</sup>.

## CONCLUSION

1. Inner Baduy (IB), Outer Baduy (OB), and Nearby Living living Sundanese (NS) are mild procheili, same as PUIL, in Mongoloid.
2. PUIL, in IB same as PUIL in OB, but PUIL in NS is different compared with PUIL in IB or OB.
3. Comparison of PUIL between IB, OB, and NS, supports the sociocultural and historical background of population group in South Banten.

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