

**MIGRANTS' HOUSING FROM DESA ADAT PENGOTAN  
ON THEIR NEW DWELLING PLACE AT SOME REGENCIES  
ARROUND BALI PROVINCE**  
(A Study of Spatial and Architectural System through the Vernacular  
Architecture)

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**ABSTRACT**

As a human being, non main citizens of *desa adat* Pengotan don't have a right of traditional dwelling place and land, so for fulfilling their own life need, they built some houses in accordance with their schemate at arround Bali, such as at Bangli, Badung, Tabanan and Gianyar regency. But as a non architect, they surely produce a vernacular architecture with some characteristics that we could find out at their new temporary settlment place according their schemate. In this case, There are three possibilities of the form and spatial system of their dwelling place, such as (i) a continuity item, (ii) changing item and (iii) something new of the form and spatial system

The study uses a synchronic approach where some purposive samples are selected at some regional areas arround Bali Provinsi. It basically understands the variant context as an indicator of change at a definded time range. It's done by compered the biginning phenomenon (at *desa adat* Pengotan) to the available variant trend form at different place (other regency in Bali). From available variants, we can find out what form and spatial system are changing, still continueing, or appearing something new.

The research results that : (i) the continueing items such as ; communal open space, lay out and shape of north and south pavilliuns, single/main gate and steps of *Bale Delod*, (iii) changing item such as ; position of house hold shrine, comunal open space measurement, the number of building setting, the traditional fence, material and construction of the building (semi fix to fixed) and (iii) something new such as : additional of warehouse, a garage, a working area and bath room.

**I. PREFACE**

**1.1 Back Ground**

Traditional settlement at *desa adat* Pengotan is a part of Balinese traditional architecture with a mountain spesific architecture pattern and its spatial configuration. Goris (1935) and Gelebet (1992) has classified Balinese traditional architecture to be the low land and mountain architecture (Bali Aga). It's based on the Majapahit's influence density. Bali southern part has an architecture with a great number of Majapahit's influence, on the contrary Bali northern one is less.

*Desa adat* Pengotan is one of *Bali Aga* at Bangli regency with its own specific architecture influenced by their uniqueness social-cultural background. At *Desa adat* Pengotan, their traditional-sacred settlement are known as *Karang Satak* which consist of

24 *banjaran*. Each *banjaran* has 6 up to 11 sets of building for *krama ngarep* (the main citizen of *desa adat* Pengotan) so the total amounts are 200 set of buildings. Unfortunately it's only main citizens have a right of the settlement because the other citizens (*krama Bala Angkep*) according to their traditional regulation or *awig-awig*, they don't have a right of housing at *Karang Satak* and some land too, so they have to earn themselves for living (Tri Adiputra, 1999). Related to their traditional regulation, so they come out of their own village looking for some jobs and building a new settlements.

As a human being, for fulfilling their own life need, they built some houses in accordance with their schemate at around Bali, such as at Bangli, Badung, Tabanan and area. As a respond to the condition physical environment, they interpreted and accomodated it in its building form and spatial system. The buildings existance at field are a respond agains the climatological, topological, humidity and temperature aspect come from the nature. Even Flechter (1987) said that the environmental potention was a main attribute influence of architectural design. The man will try to understand the nature and transform it into the form and its spatial.

According to Rapoport (1969), as a non Architect, they surely produce a vernacular architecture with some characteristics that we could find out at their new temporary dwelling place out of their village. In this case, There are three possibilities of the form and spatial system of their dwelling place, such as (i) a continuity item, (ii) changing item and (iii) something new of the architecural and spatial system.

## 1.2 Reseach Problem

It seems that the migrant from *desa adat* Pengotan who spread out to the other village will contribute a new architecture phenomenon because every village around Bali has a strong authonomy to govern their own village, meanwhile the migrants also have their social-cultural background they bring together. So what is the result ?, we can conclude it in a resume of research problem below :

1. what is the spatial and architectural housing of migrants after they spread out to the other villages (out of their own village)?
2. what items are still continuing (core culture), or somethings are loss and even an additional items (pheripheral core) or are there alculturations ?
3. what are the essence factors of the migrants moving to the other village and it's reflected by their spatial and architecture pattern? (economi-garage&work area)

## 1.3 The Aim and Advantage of Research

It wants to gain a description of spatial and architectural migrants' dwelling place those built a new settlement out side their village. Instead of the migrants have a specific social-cultural reflected on their own spatial and traditional housing at *desa* Pengotan so there are some possibilities at a new dwelling place. By comparing the previous dwelling place and the new one, we can find out which one is a continueing item as core culture and the other is a changing or additional one as the pheripheral core. Beside it, we can also collect some informations to explain the current situation and investigate why the phenomenon happened as an essence factors why they built the new dwelling place in that way.

The study of spatial and architectural migrants' dwelling place from *desa adat* Pengotan are hoped to have a beneficiary for the scientific, the community and also the government sector. In detail it can be described as below :

- a. For the scientific sector.  
The research results are hoped to contribute a new architectural theory, especially regarding the migrants' dwelling place at another place. Then the other one is for researchers that they can use it as a reference for the other researchers related to the migrants' dwelling place come from another village with the similar domain.
- b. For the Government.  
The research results can help the government arranging a housing policy atau city planning related to the migrants settlement that can make the city slum.
- c. For the Community.  
The research result can use a guide line to build a new dwelling place for another migrants because it is a migrants' architectural identity. Especially for the developer who wants to build a new dwelling place in other to consider where they come from and what they're their constrains.

## II. THEORITICAL FRAME WORK

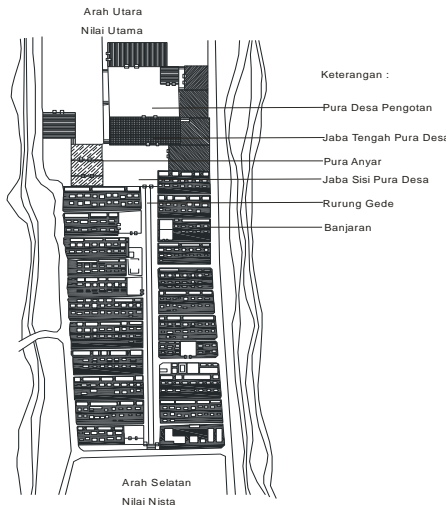
### 2.1 The Migrants' Kindship Background

Desa adat Pengotan is part of *Bali Aga* (Balinese ancient) at Bangli Regency. The village has it own specific social-cultural system that's quite different with the South Bali (Balinese low land). According to their traditional regulation (awig-awig) Their kindship are divided into three groups (Tri Adiputra, 1999), such as :

1. the first is *Krama Ngarep* which means the main citizen. For this group, they have a right of a set of housing at traditional dwelling place called *Karang Satak* and they also receive 2 (two) hectares of agricultural land for their life and ritual duty to the *desa adat* rites. A set of housing consists of (i) *Sanggah* (house hold shrine), (ii) *Bale Daja* (north pavillion) as a living room for the parent, (iii) *Bale Delod* (south pavillion) for the children room, (iv) *Teba* (spare space) for a custom preparation.
2. the second is *Krama Bala Angkep* which means the citizen has get married but they are no right of a set of housing and the land either. Because they have nothing from *desa adat*, they are free from the duty of *desa adat* rites. Instead of this condition, they have a big chance to spread out their village as migrants with the other one.
3. the third is *Krama Truna* which means the citizen has not get married yet. They live with their parent. The group has a possibility to substitute their parent's position if they are expired as a member of *desa adat* Pengotan. But it's only one can substitute receiving the right. It's generally the biggest boy. As popular kinship at Bali, at *desa adat* Pengotan also follows patrilineal system that means that the daughter can not have a change to substitute the right.

### 2.2 The Previous Migrants' Dwelling Place (*Karang Satak*) and *Banjaran*

The citizen before being migrants, they live as *Krama Truna* with their parent at a traditional dwelling place area called *Karang Satak* as the drawing below :



**Karang Satak** : a traditional settlement  
Resource : Field Observation (1999)

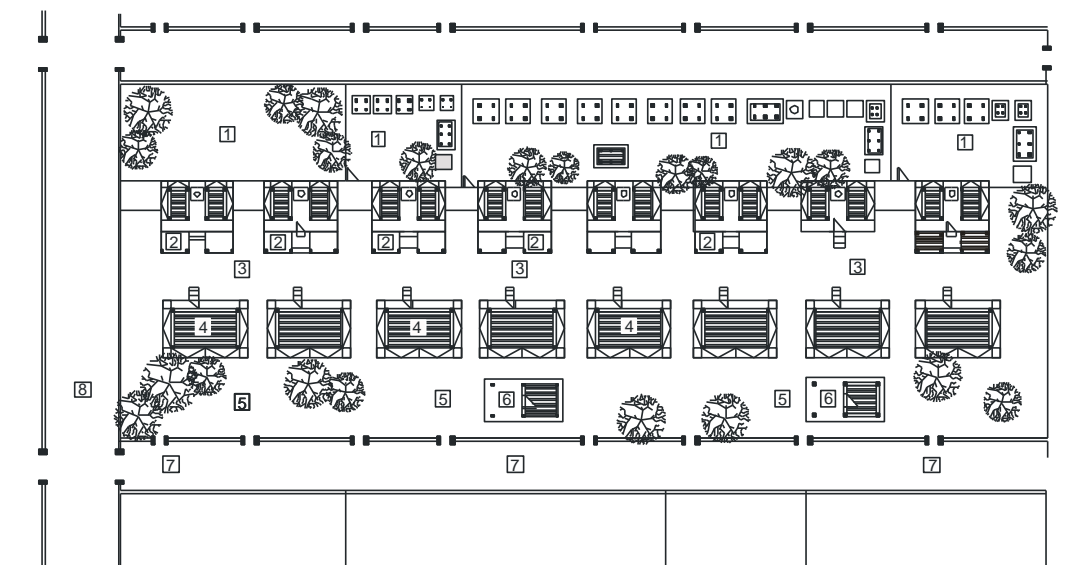
A traditional dwelling place consists of 200 sets of building for only 200 main citizens of desa adat Pengotan. The terminology of *Satak* in Balinese language refers to 200. It's divided into 24 small groups of housing, consist of 6 up to 11 sets of building called *Banjaran*. Each *Banjaran* is connected by an alley to the main core at the middle of dwelling place a known as *Rurung Gede*, so *banjarans* are situated at right and left side of *Rurung Gede*.

*Karang satak* as a dwelling place can be divided in three areas according to the three *mandala* concepts, such as : (i) the south part is *bhur loka* where the cemetery is available. The middle part is *bwah loka* where all *banjarans*'re provided as a dwelling

place and the north part is a holy area where the three temples of desa adat Pengotan exist (*Pura Kahyangan Tiga Desa*) all in one area.

Meanwhile *Banjaran* as a small part of *Karang Satak* has a special pattern following the three *mandala* concept as similar as the concept for *Karang Satak*. Firstly, house hold shrine (*Sanggah*) is *swah loka* at north part of *Banjaran* toward to mount Batur direction. Secondly, the middle as *bwah mandala* is *Bale Daja* (north pavillion), *Natah* (communal open space) and *Bale Delod* (south pavillion), and thirdly is *Jineng* or Granery & *Teba* (spare area) is *bhur loka* toward to sea direction. The specific spatial of *Banjaran* if we compare with the similar one at Bali *dataran* is : (i) there is no fence at the other set of housing, (ii) they have a sharing-communal open space and (iii) there is no *Bali Dangin* (east pavillion) and *Bale Dauh* (west pavillion).

The spatial of *Banjaran* can be seen below (not in scale) :



Legend :

1. *Sanggah* or house hold shrine
2. *Bale Daja* or north pavillion
3. *Natah* or the shared-communal open space
4. *Bale Delod* or south pavillion
5. *Teba* or the spare area
6. *Jineng* or granery
7. *Rurung* or the alley
8. *Rurung Gede* or the village main core

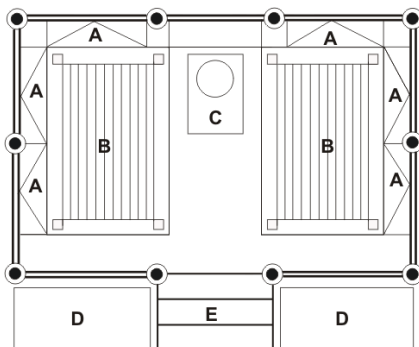
If we look at detail, 6-11 sets of housing in *Banjaran* are bordered by a rectac-angle fence with some gates according to the sets ammount of housing. All gates can be used as a circulation for all members of *Banjaran* those means they are able to enter the gate or come out of *banjaran* elsewhere they want to and need. The same condition happens on the *natah*. Every member can walk from east to west (or the contrary) in front of every set of housing. In this case there is not a thermanology that “this is my gate or open space”. It can be proved by investigating their kindship. We can not justify that 6 -11 members of a *Banjaran* is a big family or eventhogh at a neighbouring one. Some cases there are brothers and on the contrary. At the *Banjaran* above, Four sets of housing (at the middle) reflect that the owners are brother, it’s shown by their unified house hold shrine in a single border fence. An additional item, the gate fence has a stright line to the gate gate of house hold shrine fence, so the holy building of Mpu Kuturan is seen from the alley, it means a symbol that the spatial of *Banjaran* is also influenced by Majapahit’s Kingdom.

### 2.3 The Architecture of Dwelling Place

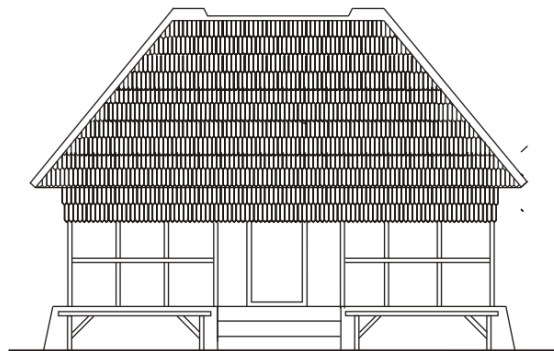
Each *Banjaran* consists of some buildings for only *Krama Ngarep* or main citizen that can be described below :

1. *Bale Daja* or North Pavillion.

*Bale Daja* is situated at north direction toward to Mount Batur (it’s a sacrad direction) It has a sacred function as a werehouse to keep a rite equipment and a bed room for the parent so its appearent is a closed walls without any window. It has some steps and a door at the center and also eight coulums of woods as the traditional construction, two beds and cupboards around the coulums. A unique appearent of *Bale Daja* is a standing stove with a profane (cooking and warming the room) and sacrad function (making an offering for their ancestor Her Sri Ratu Sakalindu Kirana).



Layout of *Bale Daja*



Front Elevation of *Bale Daja*

Legend :

A : Cupboard

B : Bed

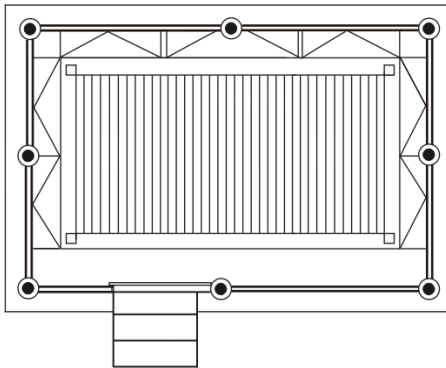
C : Standing Stove

D : Lincak/Working bed

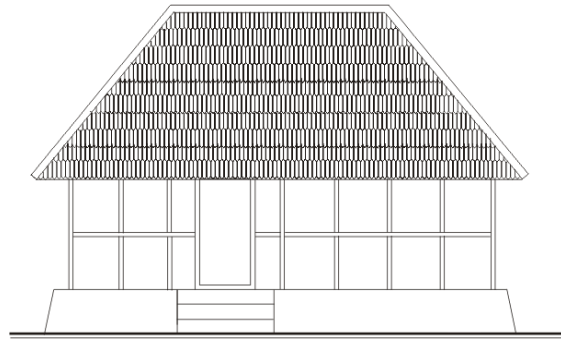
E : Steps

## 2. *Bale Delod* or South Pavillion

*Bale Delod* is situated at south direction, an opposated ward to Mount Batur. It has a sacred function as a place or area to conduct a rite procession and a profane function as their children's bed room.



Layout of Bale Delod



Front elevation of Bale Delod

It also has some steps and a door nearby and six coulums of woods as the traditional construction, a big-single bed and cupboards around the coulums.

## 2.4 The Characteristic of Vernacular Architecture

To define the vernacular architecture is not as easy as defining the primitive one. According to Rapoport (1969), The primitive architecture is an architecture that's generated by the primitive community (the meaning of primitive is as same as the anthropologist). The primitive architecture has a main characteristic of people as full participants under constructions. Their cognition of everything they possessed regarding the construction of building are the same and becoming all member community's concerns. Redfield stated that on the primitive society haven't been specialization yet. All science & knowledge of life are possessed together, there is no technical glossary at all.

The vernacular architecture is also a part of the folk architecture, but it not a part of high style. In the vernacular architecture there's a specialization, variety and different those are bigger than the primitive society, although their similar cognition, to build a house is done by the carpenter and masonry/craft man, but they doesn't mean to create a sophisticated style, open ended (the building edge can be spread without breaking the main building part), seldom receiving an outside innovation and holding tightly the norm and local building form.

Rapoport (1990) expressed some vernacular architectural characteristics those are grouped into 9 (nine) main characters such as ; (i) the general character, (ii) religiousness, (iii) the rationality, (iv) continuity, (v) the change, (vi) the time, (vii) the individuality, (viii) the group, (ix) the technology.

The other strategy in analyzing vernacular architecture that's expressed by Rapoport (1990), it can be done by see the architecture as a process and a product. In a process, there is some meanings that's involved inside, i.e.:

1. the same cognition among the owner, the craft man and the masonry about how to design the building.
2. the same method on construction using the craft man and the masonry. Everyone involves in this activity known how to build it.
3. the back ground of constructor, the activity and the attitude are as the reason

Meanwhile, the product is a result of a process that has a characteristic of: (i) no high class out let, (ii) non a specialist and (iii) non the out let of aesthetic group and Avant Garde. Rapoport stated that there 20 characters of process and 20 product. Both of the characters (the process and prduct) can be used each, separated or together in analyzing the architecture vernacular. In this case we can use the characteristic number 17 regarding the continuity and change of same cases ar different places.

## **2.5 Spatial and Architectural System.**

Habraken (1988) stated that in traditional housing can be recognized some systems involving the element that constructs the building, such as :

1. The Spatial System  
In this system, it consists of ; a layout, an orientation, hierarchy, room function.
2. The Physical System,  
In this system, it consists of ; a material, a texture of surface, the structure and construction of the building and the proportion.
3. The Form System  
In this system, it consists of ; the elements of building design, the roof, the wall, the floor, the axial, the pillar/column, the measurement, the ornament and the symbolic.

## **III. RESEARCH METHODOLOGY**

### **3.1 The Study Approach**

The research is a qualitative study and it's a further research of the author's magister stratum. He investageted about the traditional dwelling place and its environment at Desa Adat Pengotan, Bangli (an overview of the relationship between their social-cultural & its specific architecture). One of his recommendation is to continue the research by studying the migrants's dwelling place outside their own village. Instead of their citizen, It's only main citizens (krama ngarep) have a right of a setting houses and two hectare of agricultural land but the other citizen (krama bala angkep) don't have a right at all. So they tend to spread out their own village and build a new dwelling place at some regencies. The research essence is to find out the relationship between the model of previous dwelling place and the new on that are scrapped around Bali.

### **3.2 The Research Tool & Material**

The research materials involve two aspects, Firstly is the migrants' previous dwelling place including their schemate of the specific social-cultural system (the former research), meanwhile Secondly is the migrants' new one. The compenent seen at the case is the spatial and architectural system.

The research range involves all regencies around Bali province by stressing where there are a migrants come from desa adat Pengotan and it starts from macro messo and micro in the context within the number of the biggest migrant.

The main tool is human being, ie the researcher himself in conducting the field work collecting data especially for gaining migrants' social-cultural background and recording their spatial and architectural system. The other tool is a visual recording, such as a camera, a compass, a dated measurement and a drawing tool.

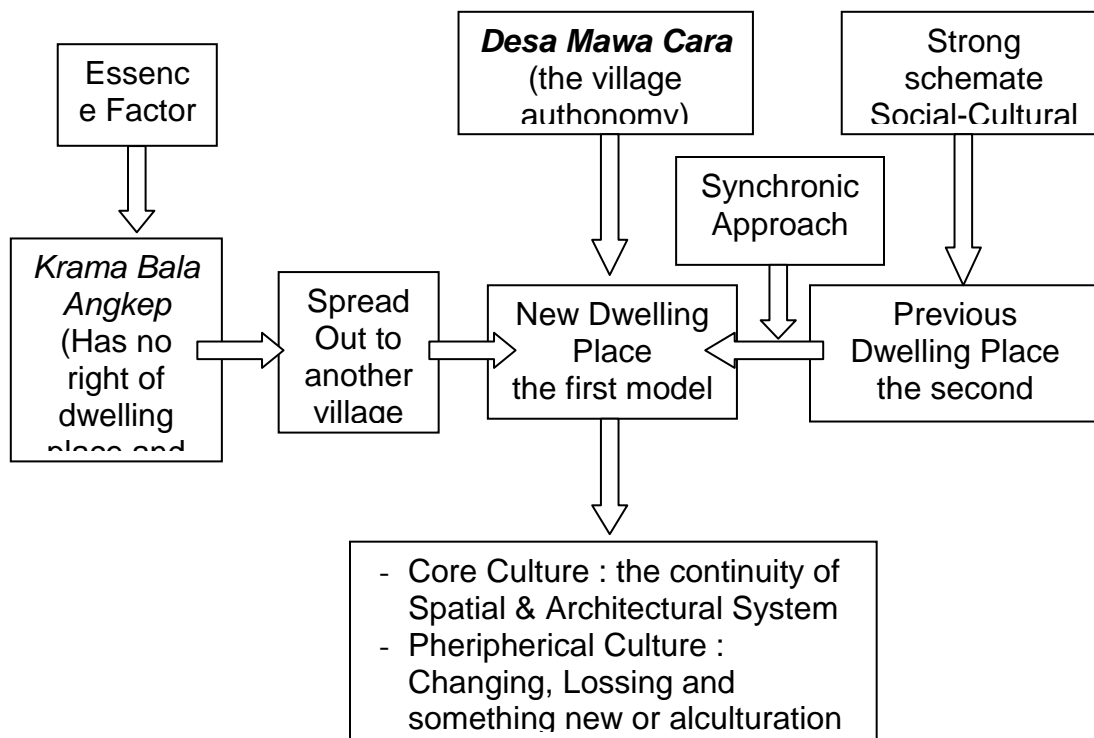
### 3.3 The Data Collecting

There is two data collecting, that is primair and secondair data. The first is gained by direct observation to identify the new migrants' dwelling place of its spatial and architectural system that're denoted as cases. The denoting cases is done by purposive sampling instead of criteria to get the most information on spatial and architectural system of migrants' dwelling place. Meanwhile the second one is gained by collecting the literatures, a map and other documents including their social-cultural system through the previous research.

### 3.4 The Data Analysis

The data are analyzed by using a synchronic approach to understand the continuity context of migrants' dwelling place on its spatial and architectural system (core culture) as an changing indicator from a difinite time range (it's not from time to time or diachronic approach). The synchronic approach is done by comparing the previous migrants' dwelling place as a biginning model and their new dwelling one out side village. From some samples, it will be found out the continuity appearing at every sampel. And finally we can analyze the essence factor on the their moving activity as migrants that are reflected by their spatial and architectural system.

flowchart of the reseach can be seen below :





## IV. DISCUSSION

### 4.1 The Similarity and Different Variants of Form and Spatial System.

To answer the research problem above according to the vernacular study approach that emphasizes the architecture as a process, a product and its relation-ship to the field phenomenon of some shapes and spatial variants at the different location, the effort done at this context is looking the essence of the similar and different between the description (as the former migrant's dwelling place) and some modes at regencies around Bali Province through the comparison strategy below. From the approach we can gain what will retain/be sustainable, change or born as an alculturation of a new style.

#### 1. The Sacred and Profane of Spatial System

It seems that the migrant's who have settled at outside *desa adat Pengotan* leaving their sacred function of *Bale Daja* and they only maintain the profane function of both. *Bale daja* at *desa adat Pengotan* use as a part of annual rite cycle. The case had been said by Raporport (1990) that one of the vernacular characteristic is an high religiousness and the relationship with the earth.

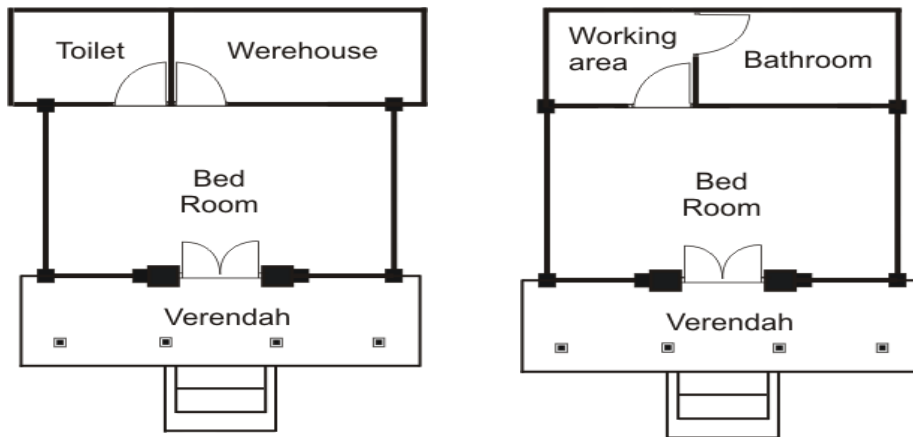
The other sysmton shows that they have to leave their sacred system related to ; (i) the standing-stove (furnace) at the center of *Bale Daja*. The migrants change into outside with an electric one at a fixed kitchen at north of *Bale Delod*. The reasonable reason is related to a simplification and economical item, (ii) the lay out of their house hold shrine where the case at Buleleng regency and Tabanan regency it moved following different direction but it's still at a sacred one. At Buleleng regency, the migrant has turn their house hold shrine into Bedugul mountain direction (southern direction as a sacred hierarchy) meanwhile at Tabanan regency the migrant chaged their orientation to the street which means they don't border weather their house are. The most important thing is the orientation is toward to the street. If the house position is west so the house hold shire is at east and the opposate. In this case the migrants seem to harmonize their spatial system with the enviroment where they stay, (ii) the number of house hold shrine, at the previous spatial, the number at *Banjaran* following the set of housing where the citizen lives, but for the migrant they are not a same group anymore, so they build a single house hold shrine at the new place.

The other phenomenon regarding spatial system is *Natah memanjang* (long-communal open space). At the new dwelling place, it's not found *Natah* anymore because the migrant live alone or two groups and they don't conduct an annual-communal rite at a new place because they hold it at their own village. Anyhow *natah* is designed wider in the context within supporting some activities that can not do it before such as : (i) parking a car at *natah*, (ii) drying their clothes and handycraft, (iii) setting up a good landscape.

The fence as a physical divider has also changed but it only borders a single or double setting of dwelling place because migrants are quite different with before where they live as a big group of 200 citizens. And as a consequense of economical and business progress, they made a wider and fixed entrance so their car can be entered or out of their house but althoght their live grouped (two or three) they still shared their gate all for one as same as they live at *desa adat Pengotan*. The difference is number of the gate, at a new place the migrants have only one meanwhile at *desa adat Pengotan* they have a lot according to number of housing.

As a respon to their business or job, some samples show that they add some spaces to their layout. At mentioned above, they allow thier car to *natah*, so their *Teba* is changed to

a garage, a fixed working area and a toilet/bathroom at *Bale Daja*. It's found at migrants who live at Gianyar regency, as the drawing below :



Those are a new phenomenon where are not found at previous spatial before because the car only can enter the main axis or *Rurung Gede* and the working area is small at *Lincak*. At this case we can emphasize that *Lincak* as a temporary working area are replaced to be a verendah with a different function than before. Related to the new phenomenon above, according to Alex Inckless (2002) said that the migrants seem to have a modern attitude, it can be proved by some modern indicators such as : (i) they want to be a efficiency and (ii) can receive a new idea. The powerful of modernization impacts have intersected the vernacular architecture characteristic (the existence of strong traditional norm) and the time (appreciate the past). Finally it appears an high nature individualism and the migrants already leave their shared orientation when they lived at a new dwelling place. As the previous time, *Bale Daja* has a sacred function of mass wedding ceremony, all family's members will interact each other in the context within the rite. It's quite different with the current condition, at the new settlement *Bale Daja* is lost its sacred function because at new area has a different custom.

So some influence factors above : (i) live at a new area with different custom,) (ii) educational progress and (iii) modernism impact created some variants of spatial that tend to be a high privacy for the migrants.

## 2. The Building Orientation and Position

From the field data show that all *Bale* (*Bale Daja* and *Delod*) at Denpasar, Badung, Klungkung, Bangli, Buleleng regency have a same orientation to the center or natah. There is a different position of *Bale Daja* and *Bale Delod* for Buleleng regency. *Bale Daja* is situated at south position of the traditional compound complex. This is caused by the change of the religious axial concept which at Buleleng is opposated with the other regencies around Bali. It's reasonable because the mountain at Buleleng regency is at southward so *Kaja* or *Daja* is at south (as *uttama*/the excellent value position) and *kelod* is at north (as *nista*/the poor value position). This dichotomy concept is known *nyegara-gunung* as the heritage for all Balinese. According to Amos Rapoport (1969) some vernacular architectural characteristics are orientated to the past. The migrants' cognition are as same as their ancestor. Meanwhile, *hastabumi* (the manuscript of position measurement) defines that *Bale Daja* position is at the *kaja* and *Belod Delod* at the crossed

one and both orientation to *natah*. Supporting by the migrants' attitude, so all samples indicate the same tendency.

#### 4.2 The Physical System

Discussing of the physical system, it seems that Bale Daja and Bale Delod of the migrants have changed in some physical item. For instance the truth material according to the nature potential is gradually change into ex-industrial outlet in almost part of the building. The phenomena are occurred at some item such as (i) the exposed construction (trusses) and plafond had turn to the reinforced concrete, (ii) the natural roof of thatch had changed to the galvanized or metal roof tile, (iii) the exposed wooden pillar was also replaced by a mosaic ceramic tile. Rapoport said (1969) that the vernacular architecture in materials are changed from the semi fixed element at the traditional village to the fixed material at the town where the migrants live. It brings a logical consequence that the texture of surface will follow the building element, from the natural texture of surface to an artificial one. Meanwhile the structure and construction are also changed, from traditional structure (skeleton structure of wood) to a bearing wall of brick or a reinforced concrete. Migrants seem to eliminate an inner structures both of *Bale* which mean all columns are changed by a thick wall. So we can not find some pillars at the *Bale Daja* and *Delod* interior anymore or in the same term they have lost one of Balinese mountain architecture characteristic. This systems seem to be influenced by modernization and technology. The migrants who living at the town (urban district) tend to substitute the truth material on Balinese traditional concept by the ex- industrial element

The proportion of *Bale Daja* and *Bale Delod* of Migrants' housing are as same as at the previous condition. The difference is shown by its measurement which the new one is bigger. It's caused by the measurement of *natah* that's wider than *natah* at Desa adat Pengotan, so in the context within still looking for an harmony proportion of human, they just adjusted the measurement.

#### 4.3 The Form System

Both of roof building at *desa adat* Pengotan and migrants housing are similar which mean that *Bale Daja* is in the shape of pyramid and the *Bale Daja* is in prism form. The difference is the steep of roof which the migrants's housing is steeper than at *Bale Daja* and *Bale Delod* of *desa adat* Pengotan. It's caused by the replacement of roofing ex-industrial element that has a special requirement of elevation angle.

On wall function side, at the previous condition has a role a space divider only, without distributing the building weight from the roof and finally to the ground (the wall can be an allegory as the shirt that can be put off or on). The material of wall is an exposed-closed woven bamboos. The material pattern of wall is related to the cold climate. At the migrants' housing, the wall sometime has a function of bearing wall (the case of a non-skeleton structure) which means that it distributes the roof weight. Relating to the warmer climate and some activities requirement, the material of wall are changed into an exposed red brick and sand stone. Its feature is completed by some windows called *dengok dedari* that's allowed to bring a light and fresh air to the building.

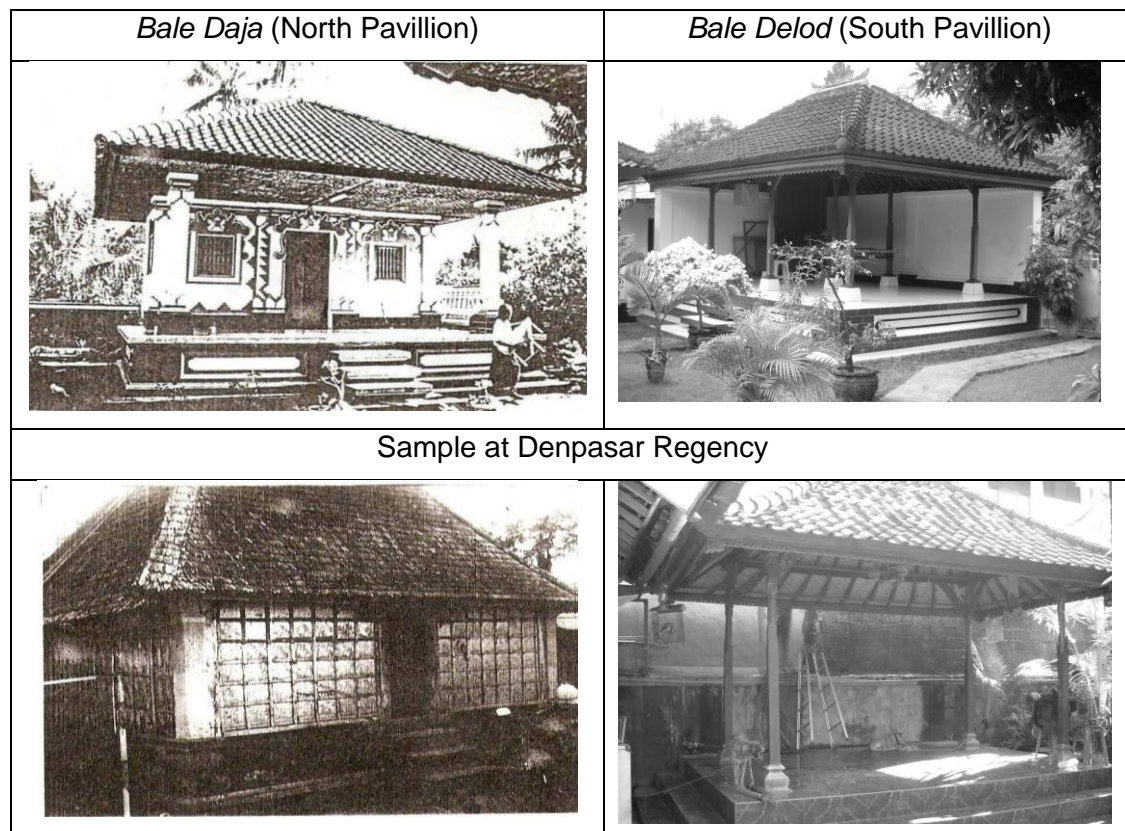
The floor of migrants' housing element are different with their dwelling place at *desa adat* Pengotan. They use a ceramic tile covering the floor meanwhile at *desa adat* Pengotan all floors of *Bala* are made of an exposed clay. Migrants' floor housing attitude seem higher because they have to adjust its proportion.

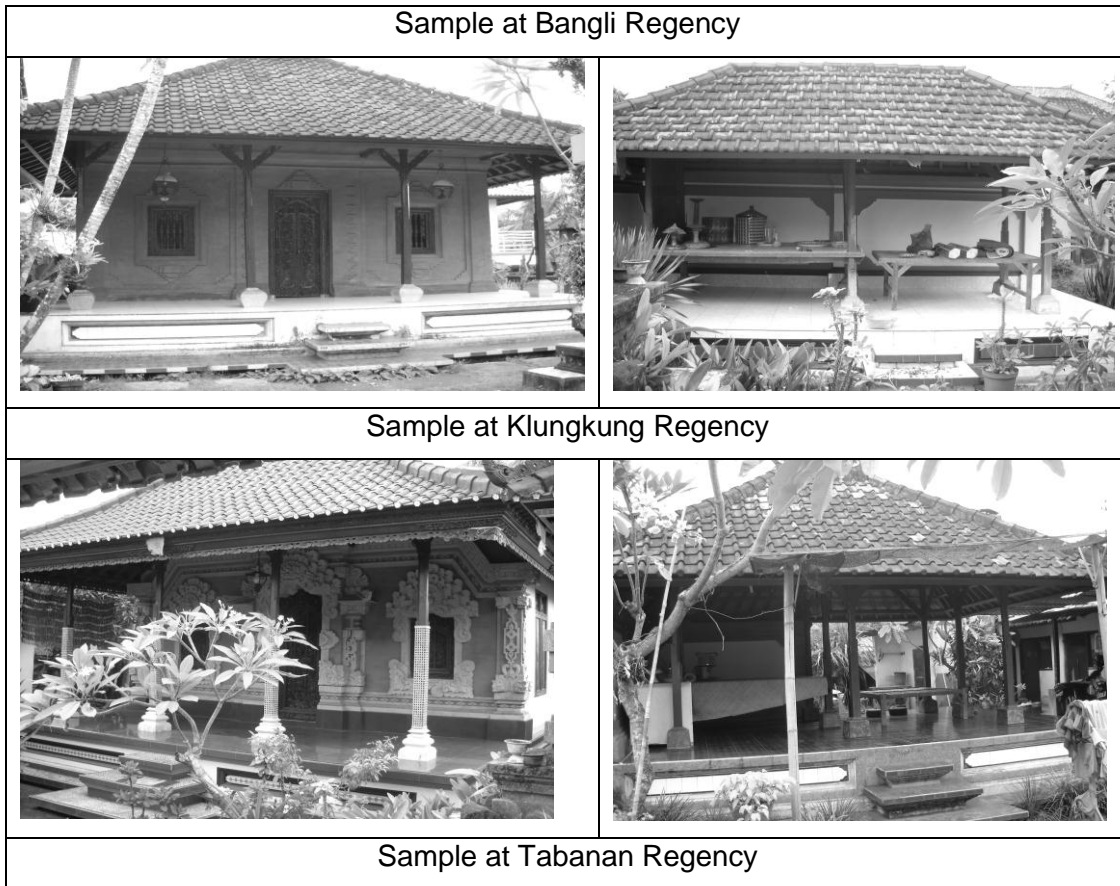
There are significant changes at the pillar, it happened at the number, structure system and its element. The reducing number of columns were occurred at the interior involved the main structure of *Bale Daja* & *Bale Delod*. The pillars were eliminated because the migrants changed their structure of building, from the skeleton structure to a bearing wall. If their structure is a bearing wall, it means that the building does not need some pillar anymore. At the outside space of *Bale Daja* or verandah, some cases showed that the four pillars are changed to two of reinforced concrete and covered by the ceramic tile and its diagonal ornament or *canggah wang* was eliminated too.

The last part of physical system is the floor platform height or *bebaturan*. All samples are supported by *bebaturan* (the lowest part of building, approximate 85 Cm of height) as "the leg part" according to *tri angga* concept. The height has a function to avoid the water capillarity and the flood. Regarding the height of *bebaturan*, to reach the floor platform, it needs some steps or *undag*. *Bale Daja* for migrants, the step is at the middle/center as the only accessibility to reach the top of *bebaturan*. It is always designed of uneven number (according to the nomenclature of *candi-gunung-rubuh*) so its number is 1, 3 and 5 steps. They used an anti slippery material for the steps such as ; the red brick, sand stone or the ceramic tile. The new appearance is occurred at steps of *Bale Delod*. At western side, the migrants add a continues step all sides, so someone can reach the top where they want to, but it's basically designed in accordance with the cycle rite which means that the steps has an additional function as a long chair for a lot of people.

For almost Balinese buildings, its' followed an axial line for the length and width. If we take a look the front elevation at the *Bale Daja* and *Bale Delod*, the axial line is clearly shown, so the building can be divided into two parts, the right and left

### Some Variants of Migrants' Housing Around Bali Provincy





side, both of sides are equal at all. The dichotomy is based on *rwa bhineda* concept which means that two power, item or somethings else can meke harmony and ballace.

*Bale Delod* and *Bale Daja* has a single door and without any windows, but at new dwelling place, the door at *Bale Delod* are eleminated and eventhoug all west and north side are opened, so it doesn's need the door anymore. The case are happed at *Bale Daja*, the migrants who has increased their education level, they will add the *Bale* with *dengok dedari* (a twin traditional windows flank the door) to support their complex activities, so they need some additional window such as *dengok dedari*. It seems an ornamental part of front wall but its role is as an illumination.

The ornamen of *Bale Daja* and *Bale Delod* are almous not exist at *desa adat* Pengotan. But migrants who has been rich, they add their building some ornaments in accordance with the norm of Balinese traditional architecture, such as : (i) Karang Gajah (an elephant ornament) for the bottom part or bebaturan, (ii) Patra Sari (the tree ornament) for the door and window, (iii) *Ikut Celedu* (the scorpion tail ornament) for the corner roof. For the Balinese ornaments, its' fallowed the norm of their life, for instance if we use the ornamen of a bird, we have to put it an high part of building, it generallyly use as a supported part of *Tugeh* (an half pillar) or if we can use *karang gajah*, we set it up at the bottom because *gajah* (an elephant) lives at ground.

At *desa adat* Pengotan, *Bale Daja* and *Bale Delod* still maintain a traditional measurement or *gegulak* in construction. *Gegulak* is basically an anthropometric measurement as the single modular based on *asta kosala-kosali*. It comes from owner finger

size as the minimal distance of *Rai*. So it can be said that *Bale Daja* and *Bale Delod* are in human proportion. But migrants housings tended to leave this one by changing with an advantage of technology outlet, such as a measurement type on centimeter.

#### **4.4. The Essence Factors of Happening on Migrants' Housing**

From some interviews with migrants in different regencies. It can be concluded the essence factors of happening on the comparison (the previous dwelling place and the new one built by the migrants), such as :

##### **1. The Modern Migrants' Attitude**

The migrants tend to have a desire of receiving and chasing some new innovations and efficiencies things. The spatial pattern of new dwelling place show that the lavatory, working area, garage and were house additional are some indicators of migrants' attitude toward to modernization because the efficiency is obviously reached if there are lavatory and were house. Meanwhile the working area at *Bale Daja* is an owners' innovation that want to a multi functions home, so from home they can run their business by supporting the technology.

##### **2. Increasing of Education Level and Changing of Profession.**

Increasing of migrants' education level and changing of profession vahe an implication on way of thinking and the activities pattern. At the previous as a farmers, they had no a light of an electricity and night activities because their activities are based on the religious agriculture and so there're not a night activities at *Bale Daja* nor *Bale Delod* which mean that both of *Bale* are as a rest room only. Changing of migrants' profession from the farmer to the others, (such as : a policeman, a teacher and businessman) caused an additional and different activities at *Bale Daja* and *Bale Delod*, so we finally had a reasonable reason why migrants changed thier spatial and architecture system at a new dwelling place.

##### **3. The Modernization and Technology Impact**

Both of factors have a powerful influence to the material changing, even it can replaced the truth material on Balinese design concept by the ex-industrial elements For instance : (i) an exposed construction of wood on struss has turn to a reinforced concrete, an exposed plafond are covered by multyplex or gypsum board, (ii) an exposed roof of thacth has changed to a galvanized roof tile or metal roof system, & (iii) an exposed woden pillars are also replaced by concrete and mosaic ceramic tile.

The new design in *Bale Daja* and *Bale Delod* spatial are some additional space for a lavatory, working area, were house an a library. The phenomenons indicated that the modern tool techology of carpenter, computer, lighting system and modern accessories for housing had taken a part on changing both *Bale* spatial system.

#### 4. The Environment and a Physical Condition.

The environment physical condition obviously influenced migrants' dwelling place on its spatial and architectural system. The climate and temperature had an implication on choosing the element building options. At *desa adat Pengotan*, the building element are dominated by bamboos and woods as responses to both of factors above, but at migrants' housing, they are changed by ex-industrial element. For an extreme example, the standing furnice of *Bale Daja* at *desa adat Pengotan* (it has a sacred role as a tool to make an offering to Her Queen *Sakalindu Kirana*/their ancestor and a profane role as a room heating tool), now migrants had change it because the weather is not cool anymore and the offering system is different.

#### V. CONCLUSSION

From the discussion above, it can be resumed some items regarding the comparison on spatial and architectural system of migrants housing between the previous dwelling place at *desa adat Pengotan* and the new settlement one as describing below :

1. changing directions of house hold shrine were happened at migrants' housing at Tabanan and Singaraja regency. At Tabanan, the orientation is toward to the street and at Singaraja is southward (Bedugul mountain). The number of house hold shrine was decreasing at the new dwelling place because they don't live in a big group anymore.
2. the other phenomenon regarding spatial system is *Natah memanjang* (long-communal open space). At the new dwelling place, it's not found *Natah* anymore because the migrant live alone or two groups and they don't conduct an annual-communal rite but *natah* is designed wider in the context within supporting some activities that can not do it before such as : (i) parking a car at *natah*, (ii) drying their clothes and handycraft, (iii) setting up a good landscape.
3. as a respon to their business or job, some samples show that they add some spaces to their layout. *Teba* was changed to be a garage to let thier cars coming through, a fixed working area, werehouse and a toilet/bathroom at *Bale Daja*. It means that the gate was constructed wider than a previous one.
4. for the physical system some changes accured at : (i) the wall function as a divider only to be a bearing wall, (ii) an exposed wooden pillars of skeleton structure to be a reinforced concred covered by mosaic ceramic tile, (iii) the steps of *Bale Delod*, from single and short to be a double side along at north and west side
5. the door of *Bale Delod* was eleminated and replace by opened all wall at north and west side, meanwhile for *Bale Daja* there was an additional window called *dengok dedari* which it has a role as an illunination and an air circulation.
6. the measurement building of migrants' housing is bigger, the roof is steeper and the layout of *Bale* is wider, but the proportion is still at human scale based on the anthropometrical Owner's measurement.
7. the core and the pheriperal culture are :

- a. new subtabce :
  - an additional space
  - a structure an construction of concrete
  - 
  - an outlet of industrial element
  - a long step at west side
  - a double window
  - an ornament
  
- b. fixed substance, consists of :
  - a roof shape of pyramid and prism
  - a building part of a head, a body and a leg
  - a *natah* position at center.
  - the main centered door for *Bale Daja*
  - the basic shape of *Bale Daja* and *Bele Delod*
  
- c. abandon substance
  - *sikut* or traditional measurement
  - a number of pillar/saka
  - a traditional structure and construction.
  - a sacred function of furnice (standing stove) at *Bale Daja*

8. the essence factors of happening on migrants' new housing are : (i) the modern attitude of migrants, (ii) increasing of education level and changing of proffession, (iii) modernization & technology impact, and (iv) the environment and a physical condition.

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