

The History and Development of *Sedahan* as a Coordinator of Water Management for *Subak* in Bali
L'Histoire et le Développement de *Sedahan* en tant que Coordonnateur de la Gestion de l'eau pour *Subak* à Bali

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Abstracts

Water use and management for the purpose of irrigation in Bali has been exist since the IX century which is known as *Subak* Irrigation System. The water management is conducted by *Subak* Leader, while water management between/among *Subaks* is done together that is coordinated by *Sedahan* and *Sedahan Agung*. *Sedahan* and *Sedahan Agung* are predicted to be exist since the government of Majapahit in the XIV century named *Asedahan* whose duty is to coordinate some *Subaks* in the mater of contribution colection and water management. At the time of Duth Invasion, The Dutch gave very high authority to *Sedahan Agung* in their territory to coordinate the *Sedahans* in order to increase the contribution for the Government of Dutch Colonial.

After the independent proclamation, one of the most significant roles of *Sedahan* and *Sedahan Agung* is in the field of water distribution management among *Subaks* and among the water sources, normally the *Subak* members are obedient to the decision of *Sedahan* and *Sedahan Agung* in the water management and they are charismatic and highly respected by the *Subak* members. However since the launching of the Regional Government Otonomy Policy at the Regency Level in the year 2000, *Sedahan* and *Sedahan Agung* has lost their power as a government authority. This is caused by the the *Subak* leaders lost their coordination in settling down disputes so as conflicts frequently occur in the matter of water use among *Subak*. The rehabilitation of *Sedahan* and *Sedahan Agung* function as supervisor from the government authority is required; this is in accordance to the Public Work Ministry Rule (*Permen*) 31/PRT/M/2007 regarding the Irrigation Commission Guidelines.

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1. Introduction

The water use and management for the purpose of irrigation in Bali is already exist since thousands of past years which was known as *Subak* Irrigation System. *Subak* is an organisation of farmer who managed water for the purpose of irrigation for its members (Pitana, 1993) and has been functioning well up to now. It is difficult to trace when the Traditional Irrigation *Subak* System in Bali firstly established, however it is believed that *Subak* has been existing ever since the wetland farming emerged in Bali, that is the IX century (Purwita, 1993, Kayane et.al. 1992).

As an irrigation system which aimed is to water the irrigation area from the water sources, the *Subak* System also has irrigation network and irrigation structures, other than that *Subak* also has organisation and leader who arrange and manage various activities, including regulate and manage the water use for the purpose of irrigation. The management of water use for irrigation area (*subak* area) fully managed by the *Subak* Leaders, while the water management among some *Subak* Areas is conducted together with the other *subak* under the coordination of *Sedahan* and *Sedahan Agung*. The function of *Sedahan* and *Sedahan Agung* other than to coordinate water management, also functioning as a media for resolving conflicts and even very effective for tax collecting purpose which is required by the authority.

Currently there is no sufficient information regarding the time actually *Sedahan* is established, and its effectively in coordinating the water management, even since the implementation or the regional autonomy in the Regency level, practically the existence and the function of *Sedahan* and *Sedahan Agung* become uncertain and causing confusion for the leaders and members of *subak* in coordinating the use of water and terminated with conflict in the use of water resources for irrigation in *subak* irrigation system.

2. *Subak and Sedahan*

1) *Subak*

According to the Regional Regulation (*Perda*) Bali Province No. 02/PD/DPRD/1972, regarding regional irrigation, Bali Province defined *Subak* is: 'a legal traditional society in Bali which character is socio religious agricultural which is historically established since ancient time and ever-developed as an organisation of land owners in the field of water management and others in an area'.

Basically *Subak* is a society organisation which characteristic is traditional, established for the purpose of water management for irrigating an area of wetland farming. Sushila (1996) confirming that *Subak* is an organisation of water users at the level of wetland business farming which already equipped with managers (*prajuru*), which include: leader, vice leader, and implementer. Pitana (1993), explains that for little *subak* is enough only to be led by a leader which is called *Kelian Subak* or *Pekaseh*. While for a bigger *Subak*, the Managers (*Prajuru*) should be consist of:

Pekaseh (Leader), *Petajuh* (Vice Leader) (not all *subak* management is equipped with Vice Leader), *Penyarikan* or *Juru Tulis* (Secretary), *Patengen* or *Juru Raksa* (Treasury), *Kasinoman* atau *Juru Arah* (Informer), *Saya* (Special Assistant), usually is selected in connection with religious ceremony.

For *Subak* that is very large is called *Subak Gede*, usually is equipped with *Pekaseh Gede* and Vice *Pekaseh Gede*. Even currently there is also *Subak Agung* which cover water use management based on the area of river basin, for example: *Subak Agung Yeh Ho* in Tabanan Regency. *Subak* also can be divided into smaller section which is called 'tempek' which is led by *Kelian Tempek*. *Kelian Tempek* is position under *Pekaseh*.

2) *Sedahan*

According to the Regional Regulation (*Perda*) Bali Province No. 02/PD/DPRD/1972 regulate that basically '*Sedahan/Sedahan Yeh/Pengelurah*' is a Regency Governmental official whose duty is to control and supervise water irrigation for *subaks* in their area, while '*Sedahan Agung*' is a Regency Governmental official whose duty is to control and supervise water use in the regency in the field of irrigation. The Duty and the responsibility of *Sedahan* and *Sedahan Agung* are:

Sedahan's duty is to control water distribution for each *subak* in their area (generally in the district area) according to the time, volume, and planting plan, control the use and water distribution and the maintenance or irrigation facilities, resolving conflict among *subaks* in accordance with the regulation applied, requesting for permit from the regency government for the extension or establishment of new *subak*. The duty of *Sedahan Agung* is almost the same with the duty of *Sedahan*, however the area covered as his responsibility is the total area of a regency.

Even though, it is explained on the Regional Regulation that the duty of the *Sedahan* and *Sedahan Agung* is much more related with the activity of water controlling for *subak*, however since the institution of *Sedahan* and *Sedahan Agung* are established in the XIV century, both establishment were experiencing high and low tide, and now even more indefinite which caused confusion among its members and then *subak* managers in settling out various problem.

3. **The History and Development of *Sedahan* and *Sedahan Agung***

1) *Sedahan* before the time of Invasion Phase

Even though the well regulated agriculture system had known its existence since the IX century and the existence of *subak* system before the XI century, however the trace of the *Sedahan* existence at the time of before the Dutch invasion in Bali is very limited. Purwita (1993) detailed that after Bali is under the Majapahit Kingdom in

1343, the agricultural management system experienced development again, since then 'Asedahan' was elected whose duty was to organise some *subaks*, which was also called *Pasedahan*, the name *Asedahan* in its next future was changed into *Sedahan* of which at that time was trusted to collect 'upeti' which was also called 'suwinih' or 'tigasana' or agricultural tax.

At that time there were two types of *sedahan*, those are: *Sedahan Yeh* (*Sedahan Tembuku* and *Sedahan Tukad*) of which in some places is called *Pengelurah*, and the second one is *Sedahan Tegal* which was also called *Sedahan Abian* (Norken, et.al; 2007). The existence of *Sedahan Yeh* (*Sedahan Tembuku* and *Sedahan Tukad*) was thought to be closely related to the water control from certain water source, for example: river (in Balinese language is called *tukad*) or diversion structure (in Balinese called *tembuku*). During this period, it was estimated that at that time *Sedahan Agung* had established, this is also confirmed by Sutawan (2008) which is quoted from Lansing (1991) mentioned that *Sedahan Agung* is the administration head whose responsibilities other than to collect tax also to handle the matter of wet and dry land farming owned by the kingdom.

2) *Sedahan* during the Period of Invasion

At the time of Dutch Colonial Government in Bali around the beginning of XX century, Purwita (1993) explained at that time *Sedahan Agung* was established at every 'Lanschap' (after the independent declaration changed into regency), whose duty was to coordinate *sedahan-sedahan* in relation to mentor *subak* and collect agricultural tax or *suwinih*. Lansing (1991) in Sutawan (2008) explained that the Dutch Colonial Government saw *suwinih* as a very potential source of receiving for the government income, so that Dutch Colonial Government gave a very high authority to the *Sedahan Agung* in his area to coordinate the *Sedahans* in order to increase the receiving of the Dutch Colonial Government.

In increasing the effectivity of agricultural tax collection in the year 1925, The Dutch Colonial Government conducted measuring of land (called *klassier*) in South Bali so as since that time the width of wet and dry land were known accurately and the amount of tax can be accurately determined. At the time of the Dutch Colonial Government, the construction of weirs/dams had been started its construction, (this for example: Dam Pejeng, Ongan, Mambal, Peraupan and Kedewatan was constructed between the year 1920 to 1930), the diversion structures (in primary, secondary and tertiary channels) was established permanently which is known as '*Program Kemakmuran*' (Prosperity Program) and implemented in the year 1914, and also the establishment of *Subak Gede* Peraupan. Other than *subak* being mentored by *Sedahan Agung*, the mentoring was also conducted by Irrigation Office South Bali for water regulation, and Agricultural Office for agricultural business and technology (Norken,et.al; 2007).

3) *Sedahan* at the Time of Independent

Since the proclamation of the Indonesian Republic in 1945, Sutawan (2008) explained that the function and role of *Sedahan* and *Sedahan Agung* remain conserved the same as the time of the Dutch Colonial Government. The *subak* mentoring remain conducted by *Sedahan/Sedahan Yeh* at the level of district who was also acting as the officer of tax collection (*Ipeda* which is now called land and building tax/*PBB*), while at the level of regency the mentoring was conducted by *Sedahan Agung* who is the highest supervisor of *subak*, who usually is also the Head of Taxation Department in the Regency.

It would be further explained that, relation among *subak* with *Sedahan* and *Sedahan Agung* is very close , every time a problem occur, *subak* felt the need to consult *Sedahan* and also *Sedahan Agung*, especially those related to ritual, irrigation network maintenance and conflict resolution among *subak*. One of the most

prominent roles of *Sedahan* and *Sedahan Agung* is in regulating the distribution of water among *subaks* and also the water distribution in the water diversion structures, in general the *subak* members are quite obedient to the decision of the *Sedahan* and *Sedahan Agung* in the matter of water distribution management and they are charismatic and respected by the *subak* members.

Other than that *subak* is also supervised by Public Work Department of which in this case is conducted by Sub-Department of Irrigation for the matter related to the construction or the maintenance of irrigation structures. While for the matter related to agricultural is developed by Agricultural Department, and those related to tradition conducted by Cultural Department. During the period of 1970-1990 *subak gede* was also established as a media of coordination for some *subaks* and *subak agung* as a coordination media for *subaks* which are located in river basin (Norken, et.al; 2007). The mentoring that has been conducted is very helpful for the farmers in operating the irrigation structures such as: water intake structures, and also increased the knowledge of the farmers in implementing the agricultural intensification so as farmers can increase their productivity. Even though the consequence is the farmer would leave the traditional way of farming, such as: plough has been replaced by tractors (Norken, 2007).

In the year 1972 also a regional regulation has been implemented that is (*Perda*) Bali Province No. 02/PD/DPRD/1972 regarding Irrigation Bali Province, in line with the effort to strengthen the existence of *subak* as the manager of water for irrigation and also as a place for settling in conflict.

4) *Sedahan* at the Time of Regional Autonomy

Since the implementation of regional autonomy at the level of regency in the year 2000, the authority of the Regional Autonomy Government becomes very vast in determining the working unit of regency government, this brings about a very heavy

impact to the existence of *Sedahan* and *Sedahan Agung*. Norken et.al; (2007) described, the study of JICA in 2006 stated *Sedahan* and also *Sedahan Agung* as the government official to mentor *subak* currently faced uncertain existence. Further more from the focus group conducted at the regency/cities in Bali Province discovered that only in the Regency of Tabanan, Badung and Bangli that still have *Sedahan Agung*, even though the duty and the responsibility do not related to the water management and control for *subak*, because the position is acted by the Head of the Taxation Department in the Regency, while *Sedahan/Sedahan Yeh* are no more exist. This causing the managers of *subak* lost its coordination media in resolving various problems with the consequence that conflict occurs related to water using among *subaks*.

4. Future Hopes

The result of the study that conducted by Norken et.al; (2007) mentioned that almost all *subak* leaders desire to refunction of *Sedahan* and *Sedahan Agung* as the *subak* mentor and coordinator from the government official, this will help the *subak* leaders and members to do the coordination either with the Working Unit within of the Regency Government or with the other Regency Government, and even with the Government at the Bali Province Level. This will be in line with the Government Regulation (PP) No. 20 year 2006 regarding the Irrigation Commission which is an institution that manages irrigation which is established in order to form the synergy in irrigation management system in every province and regency/city, and also the Regulation of Public Work Department (*Permen*) 31/PRT/M/2007 regarding the Irrigation Commission Guidelines which explained clearly the job of the Irrigation Commission at the level of regency/city which is tightly in accordance and in line with the job of *Sedahan Agung* in the past which are stated in the Regional Regulation/Perda No. 02/PD/DPRD/1972 regarding Irrigation in the Regional of Bali Province.

5. Résumé et Conclusion

- 1) L'utilisation de l'eau et la gestion à des fins d'irrigation de Bali avait été existant depuis le IX^e siècle, qui était connu comme un système d'irrigation *subak*. La gestion de l'eau d'irrigation pour la région (zone de *subak*), dans une *subak* est entièrement gérée par les gestionnaires de la *subak*, tandis que la gestion de l'eau entre les différents régions de *subak* se fait avec les autres *subak* concernées par le coordonnateur de: *Sedahan* et *Sedahan Agung*.
- 2) Même si le système d'irrigation a été de la *subak* existant depuis le IX^e siècle, cependant *Sedahan* et *Sedahan Agung* est estimé à existaient depuis l'île de Bali a été dans le cadre du Royaume Majapahit au XIV^e siècle, qui a été appelé *Asedahan* dont le travail était de coordonner certaines *subak* qui a également été appelé *Pasedahan*, lors de la collecte de l'impôt agricole ou *suwinih/tigasana*, à ce moment *Sedahan Agung* avait commencé à être connu ainsi qui est le chef de l'administration dont la responsabilité autre que la perception d'impôt également la manipulation de la question liée à l'humidité et terre appartiennent au royaume.
- 3) Au moment de la Colonie Néerlandaise du Gouvernement à Bali à travers le XX^e siècle *Sedahan Agung* a été créé dans chaque *Lanschap* (après l'heure de l'Indonésie indépendante tournée vers la régence) dont la mission est de coordonner *sedahans* en ce qui concerne l'impôt *subak* de mentorat et de l'agriculture. Le Gouvernement Néerlandais a Colonie très haute autorité de *Sedahan Agung* dans le domaine de coordonner les *sedahans* dans l'effort pour augmenter le revenu du Gouvernement Colonie Néerlandaise.

- 4) Au moment de l'indépendance de la surveillance effectuée par *subak* restent *Sedahan Yeh/Sedahan* au niveau du district, qui est aussi un fonctionnaire de percepteur de la taxe (ou *Ipeda* maintenant connu sous le nom de construction et de l'impôt foncier - PBB), tandis que dans le niveau de régence l'encadrement a été menée par *Sedahan Agung* qui est également le maître d'oeuvre élevé de *subak*. Un des rôles les plus importants de la *Sedahan* et *Sedahan Agung* est de contrôler la distribution de l'eau entre subaks ou d'un barrage, les membres les *subak* sont très obéissants à la décision de la *Sedahan* et *Sedahan Agung* dans l'eau de distribution et ils sont très charismatique et respecté par les membres de *subak*.
- 5) Depuis la mise en œuvre de l'autonomie régionale dans le niveau de la régence en l'an de 2000 ont entraîné un impact très lourd sur l'existence de *Sedahan* et *Sedahan Agung*. Actuellement, seuls la régence de Tabanan, Badung et Bangli encore *Sedahan Agung*, quoique le devoir et la responsabilité ne sont pas liés à la gestion de l'eau et de contrôle pour *subak*, parce que la position est agi par le chef du Département de la fiscalité dans la Régence, alors que *Sedahan/Sedahan Yeh* ne sont pas plus exister. Cette cause les responsables des médias *subak* perdu sa coordination dans la résolution de divers problèmes avec la conséquence que les conflits liés à l'eau se produit à l'aide des de subaks.
- 6) Dans l'avenir, le nouveau fonctionnement du *Sedahan* et *Sedahan Agung* comme le mentor de *subak* de la version officielle du gouvernement est nécessaire, ce qui aidera les gestionnaires et les membres de *subak* de faire la

coordination concernant diverses matières, y compris la gestion de l'eau d'irrigation. Ceci est en conformité avec le Règlement du Ministère des Travaux Publics (*Permen*) 31/PRT/M/2007 concernant les lignes directrices de la Commission d'Irrigation.

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