The role of health system in suicide prevention in Bali, Barriers and Possibilities

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Abstract

Background: Neuropsychiatry disorders and self inflicted injury are the leading cause of Disability Adjusted Life Years (DALY) lost in Indonesia (13,9%). Suicide is a fatal outcome of serious psychiatric problems. Bali province has the highest suicide rate in Indonesia. Despite the fact that population based studies on suicide in Asia reveals that 63% - 81% of suicide victims had diagnosable psychiatric disorders; the response of Bali's mental health system is inadequate. There is a need to better understand why suicide prevention is not a priority for Bali health system and analyze the underlying causes (technical and structural factors).

Objective: This study aims to outline the potential role of the mental health system in reducing suicide in Bali and ways to address the barriers to prioritization. The thesis will then hopefully help to improve advocacy, research, planning and implementation of suicide prevention programs in Bali.

Method: Literature review and document analysis

Result : Technical factors assessment on suicide in Bali (epidemiology, feasible intervention, cost effectiveness, accessibility and compatibility to cultural value) support prioritization of suicide prevention in Bali. Structural factors assessment (policy framework and key implementers structure and function) result in two fold. Analysis of the general health law and mental health policy support provision of integrated mental health care thus inline with strategy for suicide prevention being offered. Analysis on key implementers structure and function shows many functional support are absent in implementation level such as: 1) Mental health care is no longer integrated within the public primary health care 2) Mental health section is absent within many district health authority which supposed to conduct stewardship, resource generation and financing function 3) The function of community mental health team has been reduced from strategic planner and coordinator of general community mental health program, into coordinator for rehabilitation of the mentally ill to society. These structural barriers partly explained the inadequate respond of mental health system toward suicide prevention.

Conclusions: 1) In Bali setting, mental health system has to play the role both as service provider and demand creator trough primary care doctors training, awareness and education campaign and development of community based support group. 2) These role can be played optimally if the structure and function of the mental health system are changed to meet the need; since radical structural change may not be easy this problem has to be acknowledged and creative ways to deal with the structural barriers such as partnership and outsourcing is encouraged.

Key word: Suicide, Prevention, Mental health system, Bali

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Operational Definitions:

- Suicide: Within this paper "suicide" definition includes completed suicide and attempted suicide.
- Mental Health System: Within the analysis of this thesis, mental health system refers to mental health policy and implementing structures.
- Mental Health policy refers to policies which directly regulate the mental health system organization. These policies are: health law, national mental health policy, and mental health strategic plan.
- Implementing structures refers to government bodies involved in stewardship, resource generation, financing, provision of care for mental health services in Indonesia, especially in Bali. Those bodies includes: Ministry of Health, Mental Health hospital, General Hospital, Provincial Health Authority, District Health Authority, Community Health Care Centre, Provincial Mental Health Advisory Team, District Mental Health Advisory Team
- Mental Health System Organization Structure refers to the structure of the organization and function of the structure as mentioned in their job descriptions.
- Decentralization: The term decentralization in this thesis refers to power shifting from central government to local government. In the case of health decentralization in Indonesia, it is the transfer of power from ministry of health (MoH) to provincial health authority (PHA) and district health authority (DHA). In Indonesia there are two types of power transfer within the government administration. Power transfer from the MoH to PHA is "deconcentration" and power transfer from MoH to DHA is "devolution" (Trisnantoro, Ferdiana, 2006).
- Devolution – Transfer of power and functions to sub-national political entities those, in turn, has real autonomy in many important respects (Rondinelli D, et al 1983).
- Deconcentration – The transfer of functions, but not of power, from a central unit to a local administrative office (Rondinelli D, et al 1983).

List of Abbreviations:

BHS : Bali Health statistic
BPWHR : Bali Pharmacy Ware House Report/
BPR : Bali Police Report
BPS :*"Badan Pusat Statistik"* Indonesian abbreviation for central biro of statistic
CBT : Cognitive Behavioral Therapy
DALY : Disability Adjusted Life Years
DCPP : Disease Control Priority Project
DHA : District Health Authority
GoI : Government of Indonesia
MoH : Ministry of Health
MHSP : Mental Health Strategic Plan
NMHP : National Mental Health Policy
Puskesmas :*"Pusat Kesehatan Masyarakat"* Indonesian abbreviation for Community Health Center
PDSKJI :*"Perhimpunan Dokter Spesialis Kedokteran Jiwa Indonesia"* Indonesian abbreviation for Psychiatrists Professional Association
PGoB : Provincial Government of Bali
PHA : Provincial Health Authority
CMHAT : Community Mental Health Advisory Team
Perda :*"Peraturan Daerah"* Indonesian abbreviation for local decree issued by local government and signed by head of the province of district
PP :*"Peraturan Pemerintah"* Indonesian abbreviation for national decree issued by central government and signed by president
SK : Indonesian abbreviation for Decision Paper issued by head of structures namely e.g: minister of health, director general of a unit within MoH, head of PHA or DHA
SWOT : Strength, Weakness, Opportunity and Threat
WHO : World Health Organization
WHR : World Health Report

Introduction

I am a medical doctor working for center of health services management, which is a functional unit for research and training within the faculty of medicine of Udayana University in Bali, Indonesia. Although I pursued my medical degree in another province, Bali is my hometown; I always have a personal call to come back. I joined the unit as research and training assistant in 2005.

In 2005, every week I read suicide cases were reported in the local media. In early 2006, I made my way to join the informal suicide advocacy group, simply a group of people who cares. The questions in this thesis come from my practical experiences within this advocacy process. The aim of advocacy is to reverse the trend of increasing suicide in Bali. Despite the strong support from the vice governor of Bali, little success was yield and it is still on advocacy level until now. There are two possible reasons why this is happening. First reason is the advocacy is weak, both the content and strategy. Second reason is the design and structure of the health system is not responsive to mental health need. Having the opportunity to study in the Amsterdam; where I have the privilege to distance my self from my work and have access to great amount of literature, I think its time for me to reflect on what I have done in the past and learn more from my lesson to improve.

Further to respond on weak advocacy, I asked my self some questions; does suicide meet the criteria as an important public health problem? What are the potential roles of the mental health system to prevent suicide in Bali? During the advocacy process; reluctance to adopt proposals of suicide prevention program is also coming from the mental health system key implementers. The common reason I have heard along the discussion are: "It was not in our job description" or "we want to do it, but we cannot access the fund, since it was not our function to do it" or "we cannot give more data, we cannot push the primary health services to give us data on mental health, it is not their obligation to do so". This fact raised the question on the legal and structural framework of the mental health system. Does the system design make it unresponsive to mental health need? If that so, how to facilitate our proposed interventions within the mental health system institutional and legal framework to address the mental health system structural barriers?

In order to answer those basic questions, I have conducted a literature study on suicide prevention and document analysis on the legal and institutional framework of the Mental Health system in Indonesia and Bali Province. The information will provide basis for stronger advocacy strategy and direction for further research, planning and implementation of suicide prevention by the local health system in Indonesia, especially in Bali.

The thesis will be divided into 6 chapters. Chapter I will describe background information about Indonesia and Bali province. Information given are: 1) General overview on geographic, demographic and health status 2) General health system and its resources, 3) Mental health system and its resources. Information given in this section will be used in various analysis parts on the later chapter e.g defining feasible

interventions, accessibility, outline potential the role of mental system for suicide prevention. Chapter II will described statement of the problem, study objectives, justification of the study, methodology and study limitation. Within this chapter, the core problem of the thesis is outlined. The framework used to answer the questions posed is explained. Introduction to the concept of technical factors and structural factors is given. This concept will be used later in result and discussion. Chapter III will describe result and discussion on technical factors influencing suicide prioritization in Bali. Chapter IV will describe result and discussion on structural factors influencing suicide prioritization in Bali. Chapter V will contain general discussion. The potential role of mental health system in suicide prevention in Bali and its possibilities and barriers for implementation is discussed. Chapter VI contains conclusion and recommendation of the study.

Chapter I

Background

1.1. General Overview of the Country and Bali Province

Indonesia is the world's biggest archipelagic country; it has 17.508 islands. Indonesia's territory extends along 3.977 mile between the Indian Ocean and the Pacific Ocean. Its 227 millions inhabitants have thousands different ethnicity. 27,1% of its citizens live below the national poverty line. Indonesia's human development index ranks 107 out of 177 countries. Religions wise, Indonesia is predominantly Muslim country with 85% of the population are Muslim (Government of Indonesia/ GoI, 2008).

Life expectancy at birth in Indonesia is 69 years in 2005 (BPS, 2007). The infant mortality rate in 2006 is 25/1000 life birth (Depkominfo,2007). Since the enactment of decentralization policy in 1999, Indonesia has 33 provinces and 441 districts operate in autonomy (GoI, 2008). Indonesia is suffering from double burden of disease cause by epidemiologic transitions. Neuropsychiatry disorder is the leading cause in lost of Disability Adjusted Life Years (DALY) (World Health Organization/ WHO, 2002). In the other hand tuberculosis and lower respiratory track infection still in the top 5 of mortality and morbidity cause (WHO, 2002). (Annex 1, Top 5 mortality and morbidity cause in Indonesia)

Bali is one of the wealthiest provinces in Indonesia, supported by its international tourism industry. The fiscal capacity of the local government which indicate "supplying power" and fiscal capacity of the general population which indicate "purchasing power" are both high (DHS-1, undated).(Annex 2, Map of Fiscal Capacity). The unemployment rate in Bali is relatively low, which is 6,04% (BPS,2007). The province shares 0,29% of Indonesia's vast territory, and is populated by 3,26 million people (BPS,2007). Bali province is divided into 8 districts and 1 city. The districts namely are: Badung, Bangli, Buleleng, Gianyar, Jembrana, Klungkung, Karangasem and Tabanan. The city, which is the province capital, is Denpasar. The percentage of citizens who live below the poverty line varies between districts, ranging from under 5% to 15 % (BPS, 2004). (Annex 3, Bali Poverty Map)

The demographic pyramid shows transitions from young age pyramid into older age (PGoB,2008). Human development indicator in Bali tend to be higher then the national average. The life expectancy at birth for Bali in 2005 is 70,40 years (PGoB, 2008). The infant mortality rate in 2006 is 7,8 per 1000 life birth in Bali (Depkominfo,2007). The literacy rate in the province is 86,22. In contrast with the rest of the country, 89,08% of Bali inhabitants are Hindu (PGoB,2008).

1.2 General Health System and Resources

The government provides public primary health care at sub district level trough Puskesmas (community health centre). Puskesmas is headed by a doctor and supported

by 2 to 3 supporting centers and one mobile clinic. Puskesmas are held accountable to District Health Authority. There are 112 Puskesmas for 56 sub-districts in Bali, nearly 2 Puskesmas in every sub district with 487 supporting centers and 110 four wheeled mobile clinics. One *Puskemas* cover an area around 51,2 km^2 (BPS,2007). Ratio of medical personnel (doctor and dentist) is 2,85 per Puskesmas. Higher then the national average of 1,13 doctor per Puskesmas (BPS,2007). Apart from government facilities, there are 1.400 private practices (doctor) recorded (PGoB,2008).

Secondary health care is provided at district level, in Bali basic tertiary health care (general surgery, obstetrics, pediatrics and internal medicine) are also available at district hospital. Advanced tertiary care is provided at provincial level at the teaching hospital (Sanglah Hospital). Each district has at least one government hospital. There are 15 government hospitals for 8 districts and 1 city. In total, including private hospital, Bali province has 43 hospitals with ratio of 1 bed per 1000 population (BPS,2007).

Health financing is mostly through out-of-pocket spending (WHO, 2004). In Bali, based on 2005 survey, 77,24% of the population are uninsured which further might hinder their access to health care services and render them subject to catastrophic expenditure (Bali Health Statistic/BHS, 2007).

The private sectors are the most favorable place for outpatient visit, which counts for 56,01% of respondent surveyed, followed by Puskesmas (28,59%). Public hospital are the most utilized for inpatient services (55,28%) followed by private hospital which counts for 27,76% of inpatient care (BHS,2007). This fact has to be considered as one of the important input in order to design health care interventions in Bali.

1.3 Mental Health System and Resources

Indonesia spends 1% of its total health budget for mental health (WHO,2005). Mental health policy, substance abuse policy and national mental health strategic plan is present in the country (WHO, 2005). In Bali, Provincial and District mental health strategic plan are absent. The current mental health law is part of the general health law. Suicide prevention plan are absent. The mental health reporting system is only present as part of Puskesmas and hospital reporting system. Population based surveillance are not in place.

Primary mental health care in Indonesia is integrated in Puskesmas, since 1975 (Maramis,1998). Essential therapeutic drug for mental disorders are included in the national public drug list for primary care (Annex 4, Essential Neuropsychiatry's Public Drug List). However, after the decentralization policy was enacted, the provision of mental health care in Puskesmas is not obligatory (Ministry of Health/MoH,2001) and the drugs is no longer available in Puskesmas in Bali (Bali Pharmacy Ware House Report/ BPWHR,2007)

Referral care provided in general hospital with psychiatric bed, teaching hospital and mental hospital. Total psychiatric bed per 10.000 population is 0,4. Number of psychiatrist per 100.000 population is 0,21. Number of psychiatric nurse per 100.000

population is 0,9. Number of psychologist per 100.000 is 0,3 and the number of social worker per 100.000 population is 1,5 (WHO, 2005).

In Bali, the ratio of psychiatric bed per 10.000 population is 0,85. 86,5% of the total beds are in the government mental hospital (Kurihara T, et all, 2006). The ratio of psychiatrist per 100.000 population is 0,52 (PDSKJI, 2007) twice the national ratio. However, the ratio still 1/200.000 population. The limited numbers of psychiatrist are not evenly distributed to every district, only 5 out of 8 districts and 1 city have psychiatrist (PDSKJI, 2007). The number of other local human resources for mental health such as mental health nurse, clinical psychologist and social workers is not available. Data of local budget spend on mental health is not available.

1.4 Health Decentralization as a Context

In the beginning of 2001 following the political reform in 1999, decentralization in health was enacted in Indonesia. Health decentralization has given the district government autonomous power to decide their health strategy and implementation. Decentralization in Indonesia has proven to affect district health budget positively. However, there was obvious decrease in allocation for health promotion, monitoring and evaluation compared to increases in curative personal health care and infrastructure (Abdullah, Stoelwinder, 2007). Regarding skepticism of health decentralization in Indonesia which mainly politically driven, decentralization does not appear to have had any negative consequences in terms of deterioration of the collective health status of Indonesia, (Tilden et al, 2006).

Within this thesis, decentralization is the context where the discussion of suicide prevention program prioritization within the local mental health system lays. In general Bali has a high fiscal capacity, good human development indicator including health (such low infant mortality rate, high life expectancy), relatively good health infrastructure and resources. It is time to pay more attention into mental health problem. The basic question is; how will we use the opportunity of decentralization and autonomy to improve local government respond to the nationally marginalized health problem? In so far, little has been done by district health system toward suicide prevention and mental health program in Bali. Hopefully, appropriate advocacy content and strategy to local government within the context of decentralization will help to improve the responsiveness of local health system toward increasing number of suicide in Bali as a sign of increasing local mental health need in the province.

Chapter II

Problem, Objective, Justification, Methodology and Limitation

2.1 Statement of the Problem

2.1.1 The Nature of the Problem

Neuropsychiatry disorder and self inflicted injury is the leading cause lost of DALY (13,9%) in Indonesia (WHO,2002). World wide, suicide is claimed as the leading cause of death for people in the age of 15 – 35 years (WHO, 2004). Bali province record the highest suicide rate in Indonesia. The reported case more then doubled from 70 cases in 2001 to 158 cases in 2006 (Dhyatmikawati, 2006, BPR 2007).

PICTURE 1: SUICIDE NUMBER OVER TIME IN BALI

In 2006 the rate is approximately 4,9/100.000 population, double the rate in the neighboring country Philippines and Thailand (WHO,2003). While the suicide shows increasing trend, suicide attempts also showing similar pattern. More then half of mental health emergency cases referred to Sanglah Hospital--which is the center of referral in Bali--is suicides attempt (Setyawati, 2007).

Moreover, suicide posts big social and economic consequences for Bali because nearly half of the victims are people of working age (21-40 years) (Dytamikawati, 2006). Population based studies on suicide in Asia reveals that 63% - 81% of suicide victims had diagnosable psychiatric disorders which justifies the role of mental health system in reducing the incidence (Philips et al, 2004, Wong et al, 2008). There is an obvious need for mental health care in Bali, despite the fact, the respond of Bali mental health system is inadequate. The question posed then "why this phenomenon is happening?" and "what can we do about it?"

2.2.2 Major Factors that may contribute to the problem

In order to answer "why the mental health system does not respond well to suicide in Bali?" I use the Health system priority setting approach as the perspective to analyze the problem. Within this perspective, there are two major factors which influence prioritization process in the health system. First is the technical factor which represents criteria for public health prioritization. Technical factors include; Epidemiology, Feasible Interventions, Cost effectiveness, Accessibility and Compatibility to cultural values (De Jong, 2001). It will show the importance of the problem and possibilities of interventions. Within the context of the developing world where competition for scarce resources even tighter; gathering evidence on the problem, the context and feasible interventions through careful analysis of best practices in suicide prevention and local resources is an important step to provide information for policy makers in order to help their judgment process.

The second is structural factors; the structural precondition within the health system set the limit in which health priority will be well adopted and implemented (Bobadilla, 1996). The structural preconditions mentioned are: policy framework of the mental health system and structure and function of key implementers. Without support from mental health service structural arrangement not only the implementation of suicide prevention intervention will suffer, but also does the sustainability of the intervention. (Detailed description, see analytical framework)

2.2 Study Objectives:

2.2.1 General Objective:

This study aims to outline the potential role of the mental health system in reducing suicide in Bali and ways to address the barriers to prioritization. The result should provide information needed by researchers, advocacy group and local government to improve advocacy, research, planning and implementation for suicide prevention program in Bali.

2.2.2 Specific Objectives:
1. To analyze technical factors influencing suicide prevention prioritization in Bali
2. To analyze structural factors influencing suicide prevention prioritization in Bali by the health system
3. To outline potential role of mental health system in suicide prevention in Bali.
4. To formulate recommendation which enable improvement in advocacy, research, planning and implementation for suicide prevention program in Bali.

2.3 Justification of the study

2.3.1 Justification for the topic

Mortality statistic for suicide is difficult to obtained, firstly suicide is a highly stigmatize event and secondly the lack of sound monitoring system in developing country add up to the problem. In the world, only 98 of 193 WHO member state provide mortality statistic

for suicide and Indonesia is not one of them (WHO,2003). Even for those that provide data, official statistic might underestimate true rates (Desjarlas et al, 1995).

Acts of suicide relate to a range of social, political and psychological factors. Therefore, suicide reduction strategy will need a complex undertaking in the field. However, this will not reduce the role of mental health system to take part in preventing many suicides. Suicide is an important mental health problem; the present of suicide is tip of an iceberg of larger mental health problem. Suicide can also be seen as an entry point to further mainstream mental health services. Therefore, research on the topic of mental health system and suicide is an important subject; however it is still very scarce in Indonesia.

Literature search via pub-med and science direct with key search term "mental health AND Indonesia" result on 90 studies, 52 of them were taking Indonesia as the study site or object of comparative multi site studies. However, this low number of research in mental health is rather the rule then the exception in south East Asian setting. (Annex 5, Comparison on Mental Health Research in Indonesia and Neighboring Country) The tsunami in South East Asia has boosted the attention toward mental health and disaster management in the area. Therefore, the most common topics on the latest literature are mental health in disaster site, especially in post tsunami Aceh. (Annex 6, List of Study Topics in Mental Health in Indonesia)

Despite the role of mental health system to bridge the need and provision of care there are only two national studies were about Indonesia mental health system. Both studies were about Indonesia mental health system from historical perspective, not about the interaction with local specific mental health need in health decentralization setting. No studies about suicide were found. Seven studies about mental health in Bali were found, two of them are about health seeking pathway and utilization of care in Bali. (Annex 7, List of Mental Health Study about Bali). Therefore, this study will not only important to answer the practical questions posed in the objective but it also important to fill the gap of knowledge in the topic of suicide and mental health system in Indonesia, especially in Bali.

2.3.2 Justification for Methodology

To study the dynamic of mental health system in responding to local mental health need, ideally answered by qualitative exploratory study. The study design involves literature review and document analysis as a preliminary part followed by key informant interview, focus group discussion and validation to gather deeper information from various mental health system stakeholders. Therefore this study will be function as a map to provide the basic information for further research in the topic, mean while the study also served to help better advocacy and planning in suicide prevention and mental health care service in general.

2.4 Methodology:

2.4.1 Study Design
The study is a qualitative study using literature review and document analysis as the main data collection method.

2.4.2 Data Collection
The main methodology applied for data collection for the study, are literature review and analysis of various documents: articles, journals, Indonesia mental health policy and plan and document on structure and function of mental health organization in Indonesia at various levels. A detailed description of the methodology applied for data collection is presented below:

Technical Factors
Data sources for suicide epidemiology and health system resources in Bali are hand search and internet search of local studies trough Google, data from central statistical biro, police report, WHO site, local government official sites and professional organization site. Data on health system and health system resources are already presented in the background of study (Chapter I).

Data for best practices in Asia, gathered trough internet search for electronic journal and article using Pub-med. Key search terms applied were: Suicide Prevention "OR" Suicide Intervention "AND" Asia. Only studies which assess the effectiveness, efficacy or impact of suicide prevention or intervention in Asia were included. The first attempt of retrieval (apply the key search term) result in 441 potential studies. Articles are excluded if it doesn't provide abstract, and/or accessibility to the full content via open sources or VU library. After reading the title and abstract and assessing accessibility of the article, 8 articles are meeting the criteria. (Annex 8, Studies on Suicide Prevention and Intervention in Asia)

Because of the limited eligible Asian study; the search is widened to include international studies. Data gathered trough internet search for electronic journal and article using Pub-med. Key search terms apply were; Suicide Prevention "OR" Suicide Intervention. To avoid repetition of analysis the inclusion criteria applied are: systematic review and/or Meta analysis assessing suicide prevention or intervention. 1307 potential articles were retrieved from the first attempt (apply the key word and choose review study). After reading the title and abstract (to choose studies assessing suicide prevention or intervention and use systematic review and/or Meta analysis as methodology), 25 articles are meeting the criteria. Articles are excluded if it doesn't provide abstract, and/or accessibility to the full content via open sources or VU library. The final retrieval result in 12 articles (Annex 9, International Reviews Studies on Suicide Prevention and Intervention)

Structural Factors
The methodology applied is document Analysis on mental health policy and mental health system organization structure at provincial, district and primary health care centre

level. Data gathered trough internet search on the ministry of health data bank and provincial and districts government official web site trough their legal document product section. Hand search on the local mental health policy and plan and community mental health team document was conducted responding to the absent of the document on line. The attempt result in 3 mental health national policy framework, absent in local mental health strategy document, 8 national level document on organizational structure of health system and 10 provincial and district level document on health system organization, 4 document on local mental health advisory team .

2.4.3 Analytical Framework

Within the health system, addressing a new problem, in this case mental health service for suicide prevention, is a process of putting it into the health system priority setting. Health care priority setting is a selection process of interventions or program to put first, which enables the health system to improve allocation and benefit of the scarce resources (Bobadilla,1996). Priority setting is a pervasive feature of health care system, since demand will always override resources. Resources allocation process to particular health priorities often raises complex ethical, legal, political, technical and practical issue (Holloway,2006). Moreover, the way these priorities were made is not always easy to understand because priority setting often takes place implicitly (Ham,1996). There are some efforts made by academicians to outline some criteria for health care priority setting, in order to shed a light of transparency in the process.

In order to answer basic questions posed in this study; I build a new framework. The framework build based on modification of health system priority framework by Bobadilla and De jong (Bobadilla,1996, De jong 2001). Bobadilla framework is chosen as the basic approach (Annex 10: the Domain of Setting Health Priorities) where as De jong framework used as a complementary framework. (Annex 11, De jong "Public Mental Health Criteria for The Selection of Priorities for Training and Mental Health Interventions").

Bobadilla's framework brings understanding on the complex issues influencing health prioritization. The framework is sophisticated, but many of the factors discussed are beyond the ability of this paper to answer. The framework implicitly introduced the concept of technical factors and structural factors. The technical factors will influence which health programs or interventions should be priorities and structural factors will influence whether or not the mentioned priorities will be adopted and well implemented by the health system.

De jong framework is used as a complementary approach, to answer the technical factors because De jong framework is specifically designed to choose which mental health intervention should be provided or prioritize. He proposed 10 criterions; however I consider some of the criteria are overlapped, within the context of my data and analysis e.g community concern and cultural sensitivity. I put them together in compatibility with cultural values. Prevalence and the role of epidemiology and seriousness, I put them together in epidemiology. Some of the criterion also difficult to answer within the scope

of this paper e.g political acceptability; I grouped the analysis under structural factors. The framework used in this study can be described as follow:

PICTURE 2: ANALYTICAL FRAMEWORK
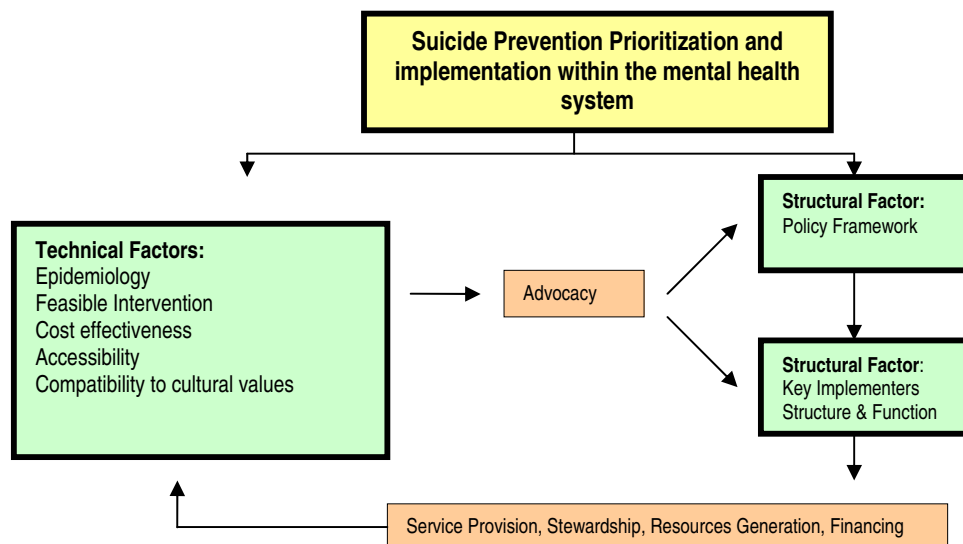
The technical factors outlined some questions that have to be answered in order to give a realistic view for stakeholders to prioritize suicide as a public health problem. It offers information on the problem and possible solution which can be provided by the mental health system. This part of analysis will outline the importance of the problem and answer the question on the possible interventions in reducing suicide in Bali. (analysis presented in Chapter III)

The structural factors outlined the next level of the process on turning advocacy and planning into practices. Policy framework shows the political compatibility of the suicide prevention program, with the overall mental health policy framework. In this case the policy framework can be a basis for advocacy; however some pitfall on the policy framework might also be an object for policy development advocacy.

Mental health system role is beyond provision of care in this study the approach used is the health system function proposed by WHO which are: stewardship, financing, resources generation and service provision (World Health Report/ WHR,2000). Key implementers structure and function, outline how the interventions proposed in technical factors assessment will be embrace within the health system function. This part of analysis will outline the structural barriers and possibilities for suicide prevention prioritization and implementation within the mental health system and the ways to address them (analysis presented in chapter IV).

In general discussion (Chapter V), the potential role of mental health system in suicide prevention in Bali will be outlined. Result and discussion on technical and structural

factors will converted into two dimensional table in order to map out possibilities and barrier for its implementation.

2.5 Study Limitation

2.5.1 Study Design

The qualitative explorative design showed that this thesis is aiming at very specific subject in depth; specific questions for specific context. This construct was chosen in order to produce operational recommendations rather then the generic ones. However, this choice will limit the ability for generalization and might run the risk of delivering only a partial picture of the overall mental health system in Bali, let alone Indonesia

2.5.2 Literature Review

The data used in the analysis are secondary data that is collected by other studies. If those other studies do not have similar context e.g social economy, culture, health infrastructure as the study subject, the analysis may be subject to many adjustments.

2.5.3 Document Analysis

The data used in the centre of analysis for mental health system organizational structure is mainly comes from national and local resources. Although the documents are accessible for the general public trough the internet, the data are in Indonesian official language *Bahasa* Indonesia. This could reduce the data validity in the perspective of international research, since other researchers who are not able to speak *Bahasa* Indonesia will be having difficulty to check the validity of the data or use the data for other purpose.

2.5.4 Limited Data on Suicide

Suicide bare a high stigma in Balinese society, population data presented may not reflect the full depth of the reality while in the other hand the mental health system also has poor data recording system. Local studies in the subject in Indonesia and Bali are also limited. Therefore research in the area is also encouraged to fill the gap.

2.6 Dissemination and Use of Result:

Result of the study will be presented in the advocacy and research group on suicide prevention and if possible to the local mental health stakeholders meeting. The result expected to be used by suicide prevention advocacy group, local researchers and mental health system as a basis for stronger advocacy strategy, further research and implementation of suicide prevention in Bali.

Chapter III

Literature and Document Study Results

Technical Factors

3.1 Introduction:

This chapter will address the technical factors influencing suicide prevention prioritization in Bali. The basic concept is to offer more objective approach to assess health care prioritization. Although selection of criterion and weighting still it is a subjective process (De jong, 2001), transparency of criterion used, research and data collection will add objectivity to the process. The factors assessed are: Epidemiology, Feasible Interventions, Cost effectiveness, Accessibility and Compatibility to cultural values. Result of this part will help to outline the importance of the problem and possible interventions.

3.2 Suicide Epidemiology in Bali

Data for the completed suicide epidemiology in Bali presented in this study is based on two sources: (i) the police record for suicide in 2006 and 2007 (ii) descriptive study conducted by Dhyatmikawati, for suicide in 2001 up to 2005. Study by Dhyatmikawati used tracking back of police record. Data for suicide attempt use one facility based study from Sanglah Hospital (Westa, 2006). Tabular and graph format of suicide epidemiology in Bali is provided in annex (Annex 12, Suicide Epidemiology in Bali)

Bali has the highest suicide rate in Indonesia the rate is two times higher then the rate in neighboring country. There is an increasing trend in the late six years, the case grows more then doubled within this period. Suicide cases in Bali are non-related individual cases, there has been no report on group or faith based suicide.

Suicide in Bali affected the most productive age group in the society; nearly half of the victims are between the ages 21-40. Elderly suicide is also noted, 16,6% of the cases were between the age of 50 -61 and 10,8% are above the age of 61 (Dhyatmikawati, 2006). 36 % of general population is between the ages of 21 – 40, 9 % are between the age of 50 - 61 and 9,5% are above 61 (BPS, 2007). The comparison between proportion of suicide cases across age group and proportion of general population within the age group shows that people between the ages 50 – 61 have highest suicide rate. This might relate to mid life crisis. Meanwhile from economic perspective people from the productive age group is also an important target group.

As for the occupation of suicide victims, more than half of the victims were farmers (55,9%), 36,9% were working in a private sector and informal sector, 5,68% are student and only 1,52% are civil servant (working in government institution). (Dhaytmikawati,2006). 35 % of the population in Bali are working for farming industry, 49,5% working in private or informal sector and only 14% working for government services (BPS, 2007). Comparison between suicide case across occupation and the

proportion of population working in the job field lead to conclusion that farmers are one occupational group which has highest suicide rate.

Various studies in developing world show that people from low social economic background (especially poor farmers) are more prone to mental health problem. However, data about social economic status of the victims in Bali is not available. Therefore it is difficult to draw further conclusion on the role of socioeconomic determinant in suicide in Bali beyond occupational group.

The method chosen for completed suicide were mainly hanging (84,5%) and the second is self poisoning (10,5) (Dhyatmikawi,2006). Facility based data from Sanglah Hospital, shows different feature. Most of suicide attempter used self poisoning (87,4%). The most common substance used for self poisoning are domestically available such as; insecticide for mosquito (59%), Floor cleaner (14,5%) and drugs (13,6%) (Westa,2006).

Following the world wide trend in suicide case sex distribution, 65,72% of suicide death in Bali were male and 34,28% were female. For suicide attempters, 70,2% were female and 29,8% were male (Dhaytmikawati,2006, Westa 2006). The method and gender differences between suicide death and attempted suicide support the hypothesis that both groups are incomparable in one sense. However, both indicate the increasing need of mental health care.

World wide trend shows increase risk of suicide amongst people who are living alone, single or divorced. Mean while; psychological autopsy case control study in rural China, conclude the difference in marital status is not significant (J Zhang et al, 2004). Because no data available on marital status of the victims in Bali, therefore, it is difficult to draw conclusion on the role of marital status in suicide in Bali considering the fact there is contradiction between study in Asia and world trend.

Police report support the assumption on increasing need of mental health services in Bali. Interview with family's and friend of suicide victims show that more then one third (33,19%) were saying that the victims suffered from physical illness (Dhyatmikawati, 2006). It is widely known that psychological morbidity is a common feature of physical disease, especially for chronic diseases and emotional distress is often under recognized by the primary health care professionals (WHO, 2001). While in the other hand, physical illness is actually a common manifestation of psychiatric disorder (Jacob,et al 1998, Bhui et al, 2002).

Furthermore, study in China concludes that physical illness is strong predictor for suicide act (J Zhang et al, 2004). There is no data on the type of illness suffer by suicide victims in Bali, but most likely it is a chronic disease. Study from Vietnam shows, Asthma and Cancer significantly correlates with suicidal thought compared to other physical illness (Huong Tran Thi Thanh et al, 2006).

3.3 Feasible Interventions

Studies on suicide prevention assessment from developing country are lacking. Assessments of literature used for international review show limited studies from developing countries are cited. Asian studies also showing similar pattern. Most of the studies found on assessment of suicide prevention/intervention in Asia, 62,5% are coming from Japan, while the rest is scattered on Iran, India and Sri Lanka. Methodology used for assessment of suicide prevention and intervention are rarely randomized control trial. It is difficult to conduct randomized control trial for highly stigmatize event and low end point outcome such as suicide. The trial might also pose high ethical debate. The methodology used in most study are quasi experimental, therefore context of the interventions will play important role for replication in different setting.

Result of international reviews and Asian studies show no contradicting evident. Based on literature review both international and Asia, there are eleven domains of suicide prevention intervention that classify as effective or promising. The eleven interventions mentioned are:1) Training of Medical Practitioners 2) Education and Awareness Program, 3) Community Based Program, 4) Pharmacotherapy, 5) Psychotherapy 6) Means Restriction 7) Post Attempt Follow –up care 8) Public Health Message through the Media and Guidelines for Media Reporting 9) Crisis Center 10) Screening

Training of Medical Practitioners
Mental health physician training is proven effective to prevent suicide (Mann et al, 2005, Beautrais et al, 2005). Most victims have contacts with medical practitioners during one month before death (Mann et al, 2005, Luoma J.B, Martin C.E, Pearson JL, 2002). Where often the present of mental health problems were under-diagnosed and under treated. Therefore, suicide prevention trough mental health training for primary care doctors is feasible.

Moreover, Balinese perceived two kinds of illness, body illness and mind illness. Balinese strongly associate the cure for body illness with modern medicine; while mind illness with traditional healer called *"balian"* (Thong D, Carpenter B, Krippner S cited in Kurihara T, et al, 2006). Based on local epidemiology, there is significant proportions of cases are having physical disease, which increases the likelihood of contact with physician. Therefore primary care doctors' training in diagnosis of mental health problem is important. The current resources support the proposal. Bali has substantial number of doctors, both in public services and private care. Primary care doctors' training is highly recommended for Bali.

Despite the fact, no refreshment training about common mental disorder has been held for medical practitioners practicing in primary care setting. Advocacy aiming at medical faculty has result in integration of "suicide block" within problem based learning material for medical doctors in the medical faculty of Udayana, assessment on this intervention should take place to help training design process for refreshment training. Strategies to involve private practitioners also need to be considered since significant proportion the populations seek care in private practice.

Education and Awareness Program

Improving public recognition toward mental health problem may contribute to suicide prevention (Beautrais et al, 2006). Moreover, mental health education and awareness program are important goal in it self. Local study reveals that victims often express their will to end their life to their friend or family member beforehand, but they do not respond to the symptoms because poor mental health literacy (Muninjaya et al, 2007).Within Balinese context, the low demands on mental health care and sign of mental health illiteracy amongst suicide victim's relatives and friend are prominent (Muninjaya et al, 2007).

Evident on mental health education and awareness program are stronger aimed at targeted population compared to program aiming at general population (Beautrais et al, 2006,D Gunnell, S Frankel , 1994). Therefore it is important to define the potential target group. In Bali context, farmers group, youth, elderly and patient with chronic illness as well as their family might be consider as potential target group. Within these target group, in Asian context evident are stronger for interventions aimed at elderly (Ono Y, 2003, Oyama H et al, 2004, Oyama H et al, 2005, Motohashi et al 2007). Conflicting result yielded from youth program (Mann J et al, 2005, Beautrais et al, 2006, Gunnell D, Frankel S, 1994). This fact indicate that within this group, content of message and presentation has to be carefully design in order to improve care seeking, coping behaviour and avoid normalization of suicide. Therefore education and awareness campaign in youth should always be coupled with self esteem and coping skill training.

In practice, scattered program are present in Bali, mainly trough education in mass media and interactive talk show by psychiatrist aiming at general population. No education and awareness campaign and de-stigmatization program for mental health were written in the health authority plan. General public awareness campaign and development of education program for specific high risk group indentified earlier is strongly recommended in Bali to increase literacy and demand.

Community Based Program

Studies in Asian population shows that combination between education and awareness program together with empowerment such as provision of social support and group activity yield a promising result (Motohasi et al 2007, Kermode et al 2007, Ahmadi, Yttersad, 2007 Oyama et al, 2005, Bhugra,Hicks 2004). These programs are able to provide a stimulus for community action and help the community to conceptualize their own mental health need. (Kermode,et al 2007, Ahmadi, Yttersad,2007). However, careful design and pilot testing are very important for replication.

In addition, education aimed at a specific group function as gate keeper to improve identification and referral of people at risk of suicidal behavior also effective (Mann,et al 2005, Beautrais,et al 2007). This can be imply in institutional setting such as school, prisons and military institution (Mann,et al 2005). However, it has to be accompanied by clear pathways to available treatment.

In Bali, there has been no such program available. Therefore development of community based program, such as support group, gatekeepers and community based befrienders in Bali is recommended to allow community to take part on their mental health decision, improve accessibility and cost containment.

Pharmacotherapy
Reports have found that affective disorders, especially depression are the most important diagnosis related to suicide. Two other important mental health diagnosis related to suicide are schizophrenia and mood disorder. Therefore, early detection in the community and primary health care setting followed by pharmacotherapy might play a role to reduce suicide.

Serotonin Re-uptake Inhibitor were promoted as effective anti depressant to prevent suicide, however reviews suggest randomized control trial are needed to prove its superiority (Mann,et al 2005). In case of schizophrenia, multi centers randomized control trial studies had shown that the use of clozapine has reduces suicidality amongst schizophrenic patient (Meltzer, 2003). Lithium proven to be superior to prevent suicide related to mood disorder, both at treatment and long term maintenance stage (D Gunnell**,** S Frankel,1994, Cipriani et al, 2005)

However, implementation of use on these drugs in Bali will be limited for hospital setting since the drugs mentioned are not available in primary care center. No suicide intervention guidelines found in hospitals, if such guidelines will be made available, lithium and Clozapine should be consider as drug of choice within the guideline.

Psychotherapy
Psychotherapy alone or combined with pharmacotherapy are effective in preventing suicide or recurrent episode in attempters (Mann et al, 2005, Beautrais et al, 2006, Keith Hawton et al, 2000, Brunstein Klomek A, Stanley B,2007, Comtois 2003). Regarding the limited human resources skill and capacity in primary care, the uses mainly are in hospital setting. Basic psychotherapy might be considered as part of refreshment training for primary care doctors. Strongest prove of psychotherapy method come from Cognitive Behavioral Therapy (CBT) for adult in individual basis (Tarrier N, 2008). Therefore psychotherapy should be considered as part of treatment package written in hospital suicide treatment guidelines.

Means Restriction
Restricting access to the majority of means used to commit suicide often leads to reduction of suicide rate (Beautrais,et al 2007, Gunnel et al, 2007). However, means restrictions has little benefit to method such as hanging (Gunnel, et al 2005) therefore will not be effective to prevent completed suicide (mortality) in Bali since the most common mode of suicide is hanging. For those who commit suicide using poison, information on the most common substance used for self poisoning is not available. However banning substance such as liquid mosquito insecticide might be effective to reduce morbidity caused by suicide attempt, since most common mode of attempt is self poisoning and the substance mainly used is liquid mosquito insecticide.

Follow –up care

People with history of attempted suicide have higher risk to commit suicide in the future. Good quality of follow-up care to people discharged from hospital after making suicide attempt shown to be effective in reducing further suicide attempts as well as in maintaining adherences to treatment given (Beautrais,2007). The approach used can be very simple such as sending follow up letters, provide card for emergency service access. However, in low resources setting these simple yet effective interventions will have to compete with limited resources and high stigma as main barriers for implementation and acceptability. Linking the follow-up care with community based support might be more effective and less cost consuming.

Media Reporting

Educating journalist and establishing media guidelines for reporting suicide is an appealing concept. However, no evidence supports the benefit of public health message and establishing guidelines about suicide in the media (Mann, 2005, Pirkis et al,2007, Beautrais, 2006, D Gunnell, S Frankel , 1994).

In context of Bali, media reporting, especially from local media has been a major concern since detailed graphic description often presented. In 2006 there were one child suicide case are directly result from curiosity and imitation, since his intention for hanging is to show his friend how the suicide victims hang them self as he read from many media info (Setyawati, 2007).

In Bali, the appropriate media reporting for suicide being promoted since 2003 but impact yet to be seen since the aggressive media coverage still present until 2007. Therefore, prove of effectiveness need to be substantiated first before effort concentrating on media is taken.

Crisis Center

Concept of crisis center is build based on the premises that most people contemplating suicide are ambivalence. Crisis centers and telephone help lines offer crisis counseling to callers and encourage them to cope with their problem in a more constructive manner, such as seek treatment from mental health services (Beautrais et al, 2007). Despite it popularity and confidentiality within stigmatization context in Asia, the main concern regarding crisis center implementation in low resources setting is the utilization rate, because of limited access to cheap communication tools.

Quality of services being offered also in question, since evaluation on help line is scarce. Some callers might be helped, but not all help lines offered high quality assistance (Beautrais,et al 2007). The extensive use of text messaging by the younger generation might be a new modality to address communication cost from care seeker side. Partnership with Mobile Phone Network Company might be essential to address cost from provider side. However this intervention might need a long time frame to take place.

Screening

The focuses of screening are on finding the indication of suicidal behavior or the present of risk factors, such as depression and substance abuse (Mann,et al 2005). However,

acceptance of the need for treatment followed by actual care seeking which are potential barriers has been underestimated (Mann,et al 2005, Beautrais,et al 2007). In Asian context, depression screening program with follow-up and health education through primary health care and public health nursing are effective for elderly population in Japan (Oyama H, et al, 2006).

In Bali context setting, cost effectiveness of screening program in the area where morbidity is rare or data is not yet available to justify the impact will be a big question for implementation of screening program. Moreover effectiveness of the screening method and tools in different cultural context will also need further investigation.

Feasible Intervention for Bali
There are proves of effectiveness of various suicide prevention intervention within the review, however careful notion should be placed on the setting of the interventions which mainly in the developed country. Classic barriers for implementation such as resources and cultural differences might still open room for discussions for replication in Bali setting. Despite the shortcoming, analysis on available evidence of effective interventions, current epidemiology of suicide in Bali, availability of resources and time frame suggest that general and targeted public awareness, primary care medical practitioners' education and community based program are the most promising interventions for primary level care. At secondary level of care, setting up hospital suicide treatment guidelines using evidence based interventions is also encouraged. The fact that these interventions either absent or present but inadequate, increased the relevancy for prioritization.

3.4 Cost Effectiveness

Studies reviewed did not mention the cost of the suicide prevention or intervention being studied. Further studies on the subject are encouraged. Disease Control Priority Project (DCPP) cost effectiveness multi site study in low and middle income country setting (Middle East and North Africa, South Asia, and Sub-Saharan Africa) conclude that; generally, for mental health disorders, combinations of pharmacotherapy with psychosocial treatment are the most cost-effective approach (DCPP, 2006).

For addressing schizophrenia or bipolar disorder antipsychotic or mood-stabilizing drugs with psychosocial treatment delivered through a community-based outpatient service cost US $ 2,5 – 17, per DALYs averted (DCPP,2006). While, for common mental disorders such as depression, antidepressant drugs with psychosocial treatment cost US $ 0,6 – 2,7 per DALYs averted

Inferring from the statement, the use of old generation (generic) antidepressant, antipsychotic and mood stabilizer for mental health disorder delivered in primary care or community based setting is cost effective. This fact support the proposed strategy on community based program and training for primary care doctors as the nearest referral.

3.5 Accessibility

Availability of care is a strong predictor of mental health care utilization in Asian setting (Rabinowitz, Gross, Feldman, 2003). Geographical access to mental health hospital in Bali strongly impacted the help seeking behaviour of mental health patient (Kurihara, Kato, 2007). The province well build infrastructure is one of Bali strength compared to other provinces (PGoB, 2008). The number of transportations vehicle both public and privately owned are amongst the highest in Indonesia (BPS, 2007). Bali has relatively high number of primary care provider both public and private. Geographical accessibility to general primary health care might be less of a problem in Bali. Therefore provision of mental health care in primary health care setting is an important opportunity to increase accessibility to mental health care in Bali.

The high supplying and purchasing power indicate by strong fiscal capacity of the local government and the general population might be seen as an opportunity to solve challenge on financial accessibility. The local provincial plan to develop social insurance scheme for the province, it might be seen as an opportunity for advocacy, in order to cover mental health service inside the package. Mental health awareness campaign and enrollment of private practitioners on mental health training program are also promising operational prospect to improve availability of care and increase utilization.

3.6 Compatibility to cultural values

For the Balinese, suicide is mainly a sin. Within the Balinese culture, committing suicide meaning making the whole village spiritually dirty and the family has to conduct a cleansing ceremony to avoid bad things happened to the village (Windia, 2006). In 1961, the agreement between Hindu priests has put forward an attempt to simplify the ceremony to clear the family and village of suicide victims (Windia, 2006). This act considers reducing the burden of the family but still maintaining the social norm. An attempt to make the suicide death having the same ceremony as usual death might not be wise since it is a way of social control and the attempt might running a risk of suicide normalization.

Balinese has low discriminative attitude towards persons with a history of psychiatric treatment. However, Balinese are having more positive attitude toward schizophrenics but more negative to depressive and obsessive-compulsive patients (Kurihara et al, 2000). This phenomenon partly due to how Balinese defines mental health problem. Balinese view interference with others and threatening behavior as prime indicators of mental illness (Tugby et al,1976). Common mental disorder which is less threatening then psychosis might be outside the Balinese understanding radar. The person's attitude might be irritating but not threatening. Therefore mental health literacy campaign might help to reduce stigma and increased supportive behavior toward common mental disorder patient.

Balinese are not favoring suicide and suicide considers as a community problem not merely individuals problem, mean while, Balinese also have high judgmental attitude

toward common mental disorder. This fact can be seen from a more productive point of view. The community concern if well managed will be a supporting condition for care seeking if care is available. The low discrimination attitude toward psychotic patient that the Balinese have might as well be developed for other mental disorder. The key is improving the understanding on common mental disorder and correlation between suicide and mental health problem.

3.7 Key Findings:

The overview of technical factors influencing suicide prevention prioritization in Bali result in:

1) There is an increasing trend and high burden of suicide in Bali which indicate the increasing need of mental health services in the province.

2) General and targeted public awareness, medical practitioner's education and community based program are the most promising interventions for primary care level. At secondary level of care, settings up suicide treatment guidelines using evidence based interventions are also encouraged.

3) Based on epidemiological feature; people from productive age group, youth, elderly between the age of 50 -61, farmers, patient of chronic illnesses and their family are important target group for interventions in Bali.

4) The mentioned intervention might be cost effective, but further study to substantiate the evidence will be needed.

5) Suggestion to develop plan to address accessibility problem, mainly by providing mental health care in primary health care facilities, involving private practitioners in training, advocacy for mental health package within the insurance scheme and mental health awareness campaign.

6) Balinese cultural context offers both challenges and opportunity for suicide prevention strategy, therefore awareness and education campaign is even more important to improve understanding on common mental disorder and suicide

Chapter IV

Literature and Document Study Results

Structural Factors

4.1 Introduction

This chapter will address the structural factors influencing suicide prevention prioritization in Bali. Analysis of structural factors will show whether suicide prevention meet the structural precondition within the health system in order to be implemented. Political commitment is essential for effective mental health services but is often lacking (Saraceno et al, 2007). Policy framework shows the political compatibility of the suicide prevention program, with the overall mental health policy framework. In the other hand, one of tangible intermediate form of political commitment beside availability of budget (Saxena et al, 2008) is accommodation of the mental health function within the health system structure. Key implementers structure and function indicates feasibility of policy implementation at operational level.

4.2 Policy Framework

Mental Health policy refers to policies which directly regulate the mental health system organization. The Policy frameworks for mental health system in Indonesia are:
  1. Health Law no 23 year 1992
  2. National Mental Health Policy (NMHP) 2001-2005 (the latest available)
  3. Mental Health Strategic Plan (MHSP) 2001 – 2004 (the latest available)

Local mental health policy documents are not available. Analysis on the documents mentioned will be the basis of analysis on political compatibility of suicide prevention program in Bali.

4.2.1 Health Law

Indonesia does not have separate mental health law after the mental health law no 3 year 1966 was abolished after the enactment of Health Law no 23 year 1992. General law regarding mental health was integrated within the new health law. Within 1992 health law, it was stated provision of mental health services is one of the government health provision function (clause 10,11, Health Law). The mental health services provision function refers to promotive, preventive, curative and rehabilitative functions (clause 24, Health Law) Partnership with other sector, especially regarding rehabilitation of mental health patient back to the general society also explicitly stated (clause 25, Health Law). The law supports the provision of mental health care by the health system.

4.2.2 National Mental Health Policy

The Directorate of Community Mental Health has developed a National Mental Health Policy for 2001-2005, as a reference and guideline for setting up the yearly Mental Health Program. The process was assisted by the WHO. The mental health policy outlines the basic principles of mental health development in Indonesia. The target is to

develop a comprehensive and integrated mental health program from community based, basic mental health care until referral level. It is also aiming at involvement of community and better management of mental health program and development of human resources (NMHP, 2001). The document did not mentioned about suicide; however the cognitive concept of the integrated mental health care, involvement of community, development of human resources and better management are in line with feasible suicide prevention intervention discussed earlier.

4.2.3 Mental Health Strategic Plan

The strategic plan outlined the shift of paradigm within the ministry of health regarding mental health. Local health authorities are functioned as the focal point in implementation for promotive and preventive care and mental hospital function as a focal point in implementation for curative and rehabilitative care. Regarding division of task and responsibilities for each government administration level after decentralization the document pointed out: 1) Basic role for the central government/MoH are for policy making, guidelines and standardization. 2) For provincial government are for assistance, policy implementation, supervisor and stewardship. 3) For district government are for research and development, planning and implementing mental health development, provision of care.

The present of provincial and district mental health strategic plan documents is one of its indicators for success of the national mental health policy implementation. However none such document found in Bali. Discussions on the quality of the documents are beyond this paper to cover.

Concerning suicide, there has been no special attention given to it. Suicide was neither inside the strategy nor indicators. Nonetheless, as the national mental health policy, mental health strategic plan also provide basis for mental health services prioritization advocacy at local level and help to lay a cognitive concept for strategic development which both can be used in the context of suicide prevention prioritization in Bali.

4.2.4 Critical Remarks of National Policy Documents

There are three concerns on National Mental Health Policy and National Mental Health Strategic Plan which are: the legal power of the document, the time frame and commitment toward the document.

Firstly; the mental health policy and mental health strategic plan were both signed by directorate general of community health of Indonesia Ministry of Health. Meaning, the binding legal power of such document will only includes institutions under the coordination of the directorate general mentioned, where as there are many institutions involved in the implementation process are not under the coordination of directorate general of community health. Such as mental health hospital and Puskesmas are under the coordination of directorate general of medical services. Looking back into fragmentation of services and poor coordination within the ministry of health, the implementation of the policy is highly unlikely to happen. Therefore, mental health policy and plan should at least be signed by the minister of health to ensure higher legal power.

Secondly; both documents are literary outdated; it was design for year 2001 – 2004/5, therefore it is no longer effective. The legal body mentioned "directorate of community mental health, which is under the directorate of community health are no longer exist" since the new restructuring within MoH in 2005. Thirdly; no tangible budget plan were attached to the strategic plan, which might mirror the level of commitment for the strategy other then statement that programs should be supported by local funds.

4.3 Key Implementers

The key implementing structures refer to government bodies involved in: provision of care, stewardship, financing and resources generation in mental health in Indonesia, especially in Bali. Those bodies includes; Ministry of Health (MoH), Mental Health hospital, General Hospital, Provincial Health Authority (PHA), District Health Authority (DHA), Puskesmas, Provincial and Community Mental Health Advisory Team (CMHAT). Organogram of mental health organization in Indonesia can be described as follow:

PICTURE 3: ORGANOGRAM OF MENTAL HEALTH KEY IMPLEMENTING STRUCTURE
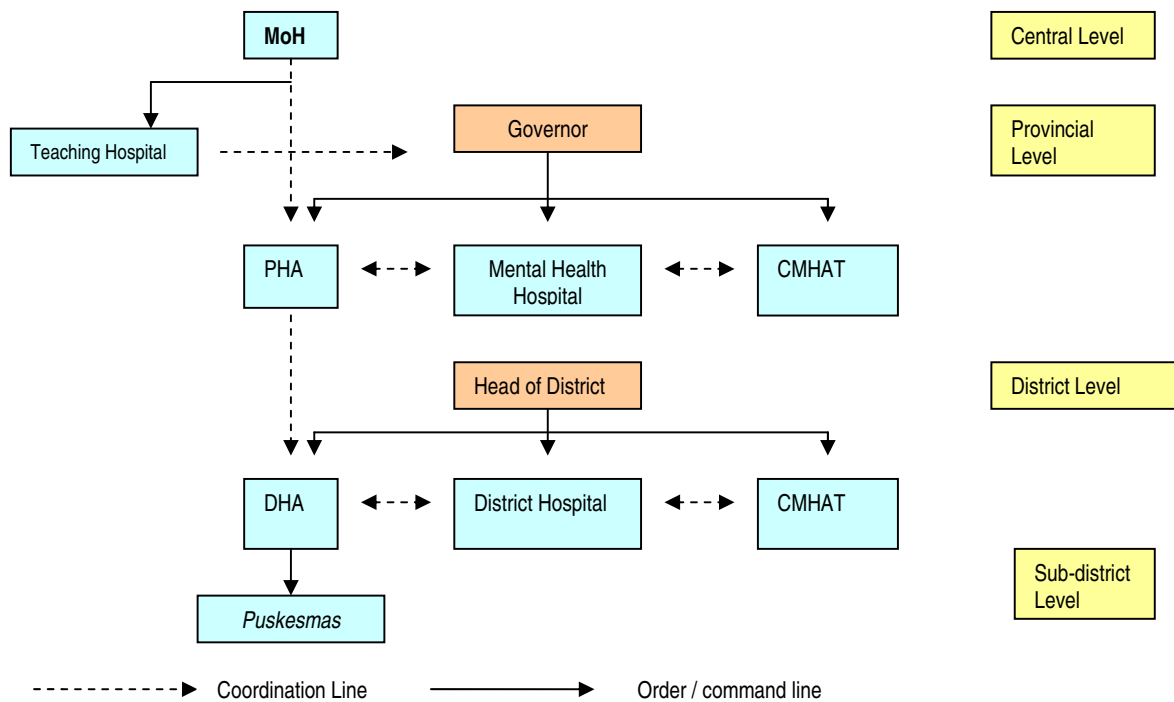
Picture: Own Source

4.3.1 Central Level

Ministry of Health

Since 1966, mental health has it post within the ministry of health under directorate of mental health. The directorate post under the coordination of directorate general of medical services (Maramis,1998). In 2000, the ministry of health restructures its

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organization, posting the mental health within three different posts. Directorate of community mental health was put under the directorate of community health for community base mental health program (promotive, preventive, rehabilitative) and for curative services under the directorate general of health services (MoH, Decree no 130/2000). The reasons behind this change is to change the old paradigm of mental health services which is curative centered and hospital based into promotive and preventive effort which is community based (MHSP, 2001).

However, this arrangement has caused problem within implementation level, since it caused fragmentation within mental health services provision effort and leaving implementer at local level serving three masters. The division also has not changed the budget allocation pattern. In 2001, budget for specialist mental health medical care is nearly 6,85 times higher then budget for community mental health program (Kompas,2001).

In 2005 there was another restructuring process within the ministry of health, result on returning the mental health structure within one roof under the directorate general of medical services (MoH, Decree no 1575/2005). Hopefully the new structure in 2005 will bring back the integration without leaving its new shifting paradigm from specialist care toward community based effort. The new change has result on liquidation of directorate of community mental health which issued the NMHP and NMHSP mentioned earlier.

4.3.2 Local Level
Decentralization policy was enacted in 1999, and health decentralization was enacted in 2001 in Indonesia. The district has the full autonomy for health strategy implementation. As it was mentioned in the national mental health policy and mental health strategic plan, local authority play a central role for mental health program implementation. The mental health strategic plan also mentioned that financial support from program should come from local budget. The mental health Public key organizations mentioned for implementation at local level are as follow: 1) Provincial and District Health Authority 2) Community Mental Health Advisory Team 3) Puskesmas (Community Health Center) 4) Mental Health Hospital and General Hospital

Provincial Health Authority and District Health Authority
Before the decentralization policy was enacted in 1999, the structure (PHA and DHA) were called ministry of health representative office *(Kantor Wilayah Departemen Kesehatan)*. In 2000, after the enactment of decentralization policy, it was change into autonomous body named "provincial health authority" *(Dinas Kesehatan Propinsi)* and "district health authority" *(Dinas Kesehatan Kabupaten)* (Trisnantoro, Ferdiana 2006). The change based on PP number 84 year 2000 on regulation and guidelines for district and provincials autonomic authority.

PP (National Decree) 84 year 2000 transfers authority to the lower structure without requiring radical change in the structural arrangement. In 2003, the government enacted another PP regarding structures for local administration to replace PP no 84 year 2000. This new PP --PP no 8 year 2003-- was inspired by the new public administration

paradigm toward efficiency and downsizing. It requires downsizing of Provincial and District Authority Body. The PP has caused many pro and contra among local government leaders, some of the cause are the conflicting legal base for the decree and resistance toward downsizing. Thus result in variation within government structure, including in health (Yessi et al,2005).

Some health authorities kept their previous structure, based on PP no 84 year 2000, some other change and downsize its structure following PP no 8 year 2003. Those which kept their previous structure are, Bali provincial health authority, and other four districts namely Klungkung, Tabanan, Badung, Denpasar. One district has merged the health authority with social welfare (Perda Jembrana,2003). Four districts restructure their organization following the national decree number 8 year 2000.

Sadly enough, mental health section is the most likely to be liquidated during downsizing process. Since most of the district health authority office which downsized their structure do not have mental health section or job description describing the mental health service provision, stewardship and coordination (Perda Bangli,2003, Perda Jembrana,2003, Perda Karangasem, 2003, Perda Gianyar, 2004,). One district health authority which keeps their old structure does not include general mental health care as priority; it only focuses on substance abuse program (Perda Klungkung,2001).

Following the new autonomy laws in the government, laws number 33 year 2004, a new PP regarding district autonomy was enacted. PP number 38 year 2007 and PP number 41 year 2007 to replace PP no 8 year 2003. The decrees explain the guidelines of provincial and district autonomy bodies/authority development and basic task should be covered by such bodies. It requires Provincial and District Health authority as a separate entities and not being merged with other function.

After the restructuring process within the ministry of health, the ministry issued a guidelines for provincial and district health authority structure development (MoH, Decicion Paper no 267 year 2008) which offering a minimum model and maximum model of the district or provincial health authority based on availability of human resources and population number. Both scenarios have mental health section within its structure. Implementation of the guideline is yet to be seen, since the guideline is relatively new (signed in April 2008). Advocacy to implement the new MoH guidelines is crucial for mental health care provision in Bali, including for suicide prevention.

Community Mental Health Advisory Team (Provincial and District)
For implementation of mental health program, especially community based and intersectoral approach the ministry of health rely so much on the local community mental health advisory team (CMHAT). The board functions as coordinator of inter-sectoral approach, strategic planning Team and resources generation (MHPP, 2001 MHSP, 2001, CMHAT, 2001). The Team was present since 1985, it was hoped that it will be present in every province and district nation wide.

In Bali setting, only the provincial government and three other districts have community mental health advisory team (CMHAT) The districts namely; Jembrana, Gianyar, Buleleng. In contrast with the national guidelines for CMHAT role and function, the Bali model (provincial and districts) were merely focus them self in rehabilitation and replacement of people with mental disorder back to the community (SK Bali,2004, SK Jembrana,2004, SK Gianyar,2004, SK Buleleng,2005). Therefore the basic assumption of the national planning was not happening on the ground.

Moreover, the heavy task carried by very top management level personnel, namely it was headed by the local government secretary, operational leader were head of the local health authority and the members are head of the local police department, head of local education authority etc (CMHAT,2001). On paper the concept is very appealing; gathering people with power to meet, plan and decide about mental health services which indeed multifaceted. Operationally it is difficult to make the high level power to meet in regular basis and produces substantial plan other then high level commitment.

This was one of the distinctive characteristic of managements in Indonesia as Hofstede has found in his value survey amongst managers across the world; he found that Indonesian managers scored high in dimensions such as 'collectivism', and 'power distance'. These findings can be interpreted as follows: managers in Indonesia prefer to discuss the overall direction of the organization with all the members (definition of 'high collectivism'), and strategic decision making are usually done at the top level of management (definition of 'high power distance') (Hofstede, 1983).

In Bali various health program oriented team with similar characteristic is present; such as district team problem solving for maternal neonatal and child health, AIDS team, TB team and many other. Member of the team often hold multiple membership in other team such as: the government secretary being the head of community mental health team as well as vise head of maternal health team. The present of high rank official within the team some times serve the political symbolism function more then functional role. Some team has stronger professional and budget support, which enables the high rank official bid on readily formulate strategy prepared by the functional team, therefore more show higher performance. While some other ---like community mental health team--- doesn't. Empowerment and outsourcing of the team functional role is encouraged to fill the gap.

Puskesmas (Community Health Centers)
Since 2001, mental health services were counts as expansion package, it was not obligatory anymore for Puskesmas to provide the services (Ministry of Health, 2001). Slight hope were offered by introduction of standard on minimum services in 2003 for provincial and district government which requires at least 15% of all outpatient care in any facilities were having mental health diagnose. Hence, until 2007 mental health care is not provided at Puskesmas in Bali. Basic mental health drugs are also no longer available in public primary care (Bali Pharmacy Ware House Report, 2007).

The absent of mental health service in primary care, will not only hinder accessibility to the services, because the mental health reporting system on primary care setting is only

coming from Puskesmas, it will also hinder accessibility to report which then make the impression that mental health problem are not present. Therefore reintegration of mental health care in Puskesmas in Bali is strongly recommended.

Hospital

Hospital played a curative role, within suicide prevention effort; they play a role in providing prompt treatment for suicide attempter who seeks help. Most hospitals do not have clinical guidelines for suicide treatment. One hospital which is the teaching hospital has it but it was not implemented (Setyawaty, 2007). The absent of suicide as part of diagnosis axis being reported (Setyawaty,2007) is also a barrier for suicide research, advocacy and planning. The absent these treatment and reporting guidelines will further hinder the quality of care and quality of advocacy, research and planning strategy. Therefore development of such guidelines is encouraged, as it has already mentioned earlier.

4.4 Key Findings:

The analysis of structural factors; policy and key implementers result in
1) At policy level, suicide prevention prioritization process in Bali is compatible with the legal framework of the health system. However, the two legal frameworks—National Mental Health Policy and National Mental Health Strategic Plan-- which can be the basis for advocacy at local level were already outdated. No budget was attached to the strategic plan. In context of Bali, none of the provincial and district government has local mental health strategic plan.
2) Some district doesn't have mental health key implementers at management level such as the absent of mental health section or function within District Health Authority
3) Some District doesn't have mental health advisory team, those which have it has a very narrow function which conflicted with the national guidelines.
4) At primary health care institution level, mental health care is not included in the basic package of public primary health care anymore. Therefore Puskesmas is not obligatory to provide mental health service which will hinder accessibility to care and report.
5) At secondary mental health care level, most hospital does not have a guide line for treatment and reporting for suicide attempt case

Chapter V

Discussion

The Role of Mental Health Services in Suicide Prevention in Bali, Possibilities and Barriers

5.1 General Discussions

Technical Factors

Suicide is a fatal outcome of serious mental health problem, and the number is increasing over time in Bali. Suicide affects the most productive age group in the society, which pose a big socioeconomic threat for Bali. General and targeted public awareness, medical practitioner's education and community based program are the most promising interventions for primary care level. At secondary level of care, settings up suicide treatment guidelines using evidence based interventions are also encouraged.

Based on epidemiological feature; people from productive age group, elderly between the age of 50 -61, farmers, patient of chronic illnesses and their family are important target group for interventions in Bali. Community based education campaign contains suicide warning sign (Annex 13, warning Sign of Suicide) symptoms of depression (Annex 14, Symptoms of Depression) and ways to deal with it including how to find and consult health services proven effective to reduce suicides in Asian setting. Counteracting permissive attitude toward suicide and enhancement of taboo on suicide, which also present in Bali cultural context, also performed as part of comprehensive intervention in some studies (Oyama H, 2004). The present of recreational and volunteer social group activity is also supportive for suicide reduction (Ono Y, 2003, Oyama H et al, 2004, Oyama H et al, 2005, Motohashi et al 2007).

High proportion of suicide cases in Bali were also suffer from physical health problem, which further increase the likelihood of contact with health provider before suicide. This fact justifies the role of health system in diagnose and treatment of mental health condition accompanying or causing the physical distress. In addition, availability of service and geographical accessibility are strong predictors for utilization. Therefore, provision of mental health care at primary care level and training of medical personnel is very important.

Within the context of mental health problem in Asia, often doctors and patient are speaking the same language and even sharing the same cultural background but they don't understand each other (Tzeng Wen-Chii, Lipson J.G, 2005). It was evident that understanding on local culture, symptomatology of mental health problem such as depression results in better diagnosis and treatment outcome by medical practitioners (Derjarlais et al, 1995, Sanchez, Gaw, 2007, Wynade D et al, 2005).

Therefore, in order to increase sensitivity of diagnosis and treatment efficacy, doctors for culturally sensitive detection and treatment of common mental health problem, screening

of suicide risk factors such as depression and substance/alcohol abuse and skill to ask suicidal thought in patient in clinical setting is important (Desjarlas et al, 1995). This approach can also be implied in medical faculty setting.

Introduction of patient health questionnaire can help doctors to increase sensitivity of diagnosis for common mental health disorder and somatization as well as time efficient in Asian setting (Becker S.M, 2004, Avasti, A et all, 2008). Adaptation of this tool might be necessary to help the primary health care doctors in Bali. However, to ensure accessibility, the diagnosis skill obtained from training should be coupled with present of treatment; including basic psychotherapy, basic neuropsychiatry drugs in primary care and referral route. Furthermore, investing in human resources is an important step, since it is a strong predictor for mental health budget (Jacob KS et al, 2007). There is possible interpretation; more human resource might strengthen advocacy.

The current community concern and cultural norm about suicide and high acceptance on the present of mental health disorder amongst the community member give the interventions large cultural space for implementation. The key is to improve awareness amongst community member. One and half hour lecture in the workplace contain basic information on mental health problem, self assessment and help seeking held in Japan result in increase of mental health understanding, reduce in negative attitude and improvement in attitude on psychiatric treatment seeking (Tanaka, G et all, 2003).

In conclusion, analysis of technical factors influencing suicide prevention prioritization inside the mental health system supported suicide prevention as public health priority. Suicide is epidemiologically important while feasible, cost effective and accessible intervention can be made available with the current resources and the interventions are largely compatible with Balinese cultural value.

Structural Factors
Having analyzed the technical factors, which support suicide as a public health priority in Bali; the next level of analysis is the structural factor to ensure adoption of interventions by the mental health system. Analysis on policy level shows a strong advocacy basis for provision of mental health care by the health system, especially from the health law. However, renewal and improvement of the national mental health policy and strategic plan is needed to strengthen advocacy. National suicide prevention plan should also be available in the long run.

In the other hand, there some barriers in implementation level due to structure and function of key implementer. The basic aim of mental health system is to improve mental health status of the community they served. The basic role is to provide accessible quality of care. To ensure availability and utilization, the mental health system has to go beyond provision of care. It has to steward the provision, generate resources and ensure fair financing arrangement (WHR,2000). As to mental health system response to the growing mental health need indicated by increasing number of suicide in Bali, the mental health system did not perform well. There is a wide gap between need and interventions available.

In decentralized Indonesian context provincial health authority (PHA) and district health authority (DHA) is the backbone for policy implementation. The absent of structure which dealt with mental health within the local health authority is major barrier for initiation and sustainability of suicide prevention prioritization and overall mental health care. In Bali, it should be an ideal case control study, to compare performance of districts which has mental health section and those which don't. Sadly, they show no difference in performance measured by the present of intervention taken. This shows that, not only the present of the structure is necessary but also empowerment of the present structure.

Community mental health advisory team often absent or did not perform well, therefore in need for advocacy and empowerment. While in the other hand at health care facilities, mental health care is no longer available at Puskesmas level which hinders accessibility to mental health care and also accessibility to report for evaluation and planning. Reintegration of mental health care in Puskesmas is important to solve the problem. In hospitals treatment and reporting guideline is absent, therefore development of such guidelines is encouraged since it will improve quality of care and information on the matters.

In conclusion; concept of integrated mental health care presented in general health law national mental health policy and national mental health strategic plan support provision of suicide prevention, although the documents did not explicitly mention about suicide. The analysis on key implementers structure and function shows in implementation level many functional supports are absent. These structural barriers contribute to the inadequate respond of mental health system toward suicide prevention in Bali.

5.2 Potential Role of Mental Health System in Suicide Prevention in Bali, the Dynamic Interaction

The wide gap between need and interventions or activities taken by the local mental health system in Bali to respond on suicide can be seen as an interaction between supply and demand. From supply side, progress in mental health care provision in Bali is lacking both in quantity and quality.

In the function of care provision, in Bali primary care both public and private did not provide mental health care, in hospital suicide guidelines either absent or not implemented, awareness campaign is inadequate and community based program is absent.

Regarding stewardship function, it is beyond providing law or strategy, it involve supervision, assistance, development of indicator and proper monitoring and evaluation system. In Bali the mentioned activities are largely absent.

Resource generation function involves training of human resources to improve skill in mental health diagnosis and treatment, followed by neuropsychiatry drug procurement.

Designing a proper incentive scheme for mental health care performance is also part of resources management. These activities are also largely absent.

Financing function is very crucial for mental health care provision, especially suicide prevention in Bali. Suicide prevention has some degree of positive externalities because every suicide case has had negative impact toward their family and friend's mental health status. Most of the cases have history of suicide or attempted suicide in their family. In the other hand, demand to the services is lacking. Following WHO algorithm of financing option (WHR,2000), these two facts about suicide support provision of care finance by public money in Bali in its initiation phase.(Annex 15, WHO Algorithm of Financing Option for Health Care).

The absent of mental health section within health authority bodies and narrow function of community mental health team is some of the reasons why mental health system in Bali has poor performance in their stewardship, resources generation and financing function since those roles are mainly played by them which further impact the provision of care.

There has been classic dualism in organizational theory debate between social determinism and free will. The free will or agency approach sees structure is subject to actors. In the other hand, social determinism or systemic approach argues that actors are subject to structure, through their defined role (Astley, Van de Ven, 1983). In practice, both theories are applicable. In health system in Indonesia, the main stream basis for health system organization and their culture mostly is the deterministic. Therefore, the present of structure or written functions on the job description potentially result in better performance. The absent of structure surely will lead to further marginalization of the health issue.

From demand perspective, lack of mental health literacy, stigma and lack of prospective financial accessibility can be factors to explain low utilization. Low utilization of care then can be a reason of low level of priority given to the provision of mental health care. Therefore in Bali, mental health system should play double role. It has to be able to provide mental health services needed and create the demand to the services. Advocacy should target technical and structural factors; it should aim at the wider roles of mental health system including stewardship, resource generation and financing coupled with technical level advocacy for service provision activities. This interaction can be described schematically as follow:

PICTURE 4: DIAGRAM ON INTERACTION OF MENTAL SYSTEM AND SUICIDE PREVENTION
Picture: modified from Grand Design of Maternal Neonatal Child Health for Indonesia;
Gani, 2006
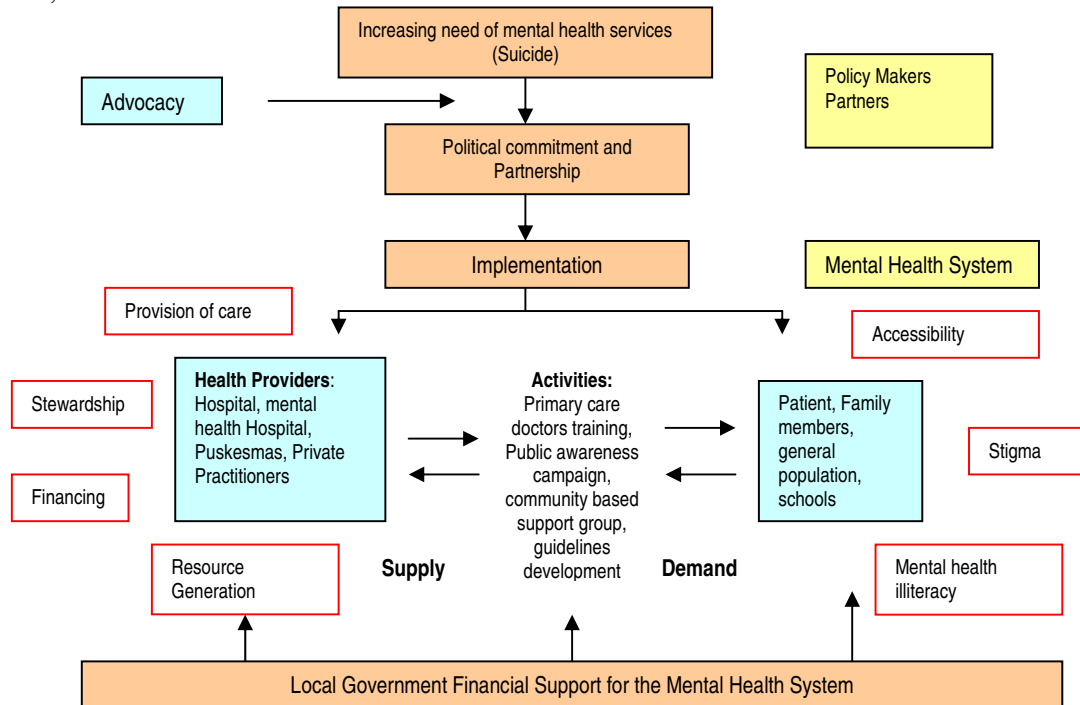
5.3 Barriers and Possibilities for Implementation

Derived from analysis on technical and structural factors and potential role of mental health system, list of possibilities and barriers is build. The list presented in two dimensional table, instead of four dimensional used in SWOT analysis in order to clearly show the link between the barriers and possible solution. The analysis resumed in table bellow:

TABLE 1: MENTAL HEALTH ROLES IN SUICIDE PREVENTION IN BALI, BARRIERS AND POSSIBILITIES

Barriers for Implementation and Utilization	Possibilities to Address Barriers
Technical Factors	
Cultural context; Stigma and prejudiced against common mental disorder and suicide	1.Cultural norm to punish suicide might support health seeking if care is available 2.Education and awareness program about common mental disorder to enhance understanding on mental health problem 3.Community based approach to improve participation, understanding and collective development on new meaning of suicide and mental disorder
Low mental health care availability and utilization	1. Strong government fiscal capacity, potential for publicly funded program 2.Development of plan of social insurance scheme is on going, advocation on integration of mental health care package within the scheme 3. Reintegration of mental care in Puskesmas
Low quality of mental health care	1. Training involving both private and public primary health care practitioners 2. Partnership with professional organization to train and supervise quality. 3. Develop clear indicator and incentive 4. Guidelines for treatment , audit and reporting at hospital level
Structural Factors	
Absent and inadequate Management Structure: Mental Health section in DHA	1.Advocacy using the national policy framework, including the new MoH decree on health authority organization guideline to embrace mental health into DHA structure 2.Advocacy to the local health authority for outsourcing on some of the function of mental health section e.g training provision, design of interventions, mental health information system and registration, development of indicators, procurement and design of incentive scheme. 3. Empowerment of the present structure trough better assistance and supervision from MoH and partnership with local stakeholders (university, psychiatrist association, medical doctors association, hospital associations, local traditional and religious leader)
Absent and inadequate Management Structure: Community Mental Health Advisory Team	1. Strong basis of power, high responsibility with lack of functional capacity. Strong mental health section within health authority structure might handle the burden, but it is not often the case. Empowerment and outsourcing is encouraged for certain function e.g design of local mental health strategic plan in order the structure to perform better. 2. Improve role in multi sector coordination
Outdated mental health policy	Substance in cognitive concept still applicable, however renewal is encouraged. Renewal should ensure higher legal power and budget attachment to guarantee implementation. Legal power should be at ministry level not directorate. Budget also must be attached to the strategic plan for assistance, supervision and monitoring of implementation and development of local mental health strategic plan and agency.

5.4 CRITICAL REMARKS
Technical Factors

Asian researchers have tended to study socio-cultural factors compared to association between mental health and suicide (Vijayakumar, 2005). This might be correlated to the fact of high stigma for mental health that the role of mental health system and mental health care provision in Asia tend to be overlooked. In the field, personnel who are not trained in mental health will tend to associate the cause of suicide with social factors (Desjarlas et al, 1995) such as deep sadness because of continuing quarrel with in laws. This result on the cause suicide recorded as family conflict and overlooked the possible sign ofdepression. It shows that not only the general populations who are subject to stigma issue and mental health illiteracy, the information system and scientist might also are.

The exact cause of the current increasing suicide trend in Bali is still in question. Some reasons arise are: the increase is an impact of tourism business recession after Bali bombing tragedy in 2002 and 2005. Further research is needed to substantiate the evident on the correlation between Bali bombing and suicide.

The other reason is the increase is due to increase in reporting since suicide often presented in local media. The hypothesis of increase reporting alone, which do not reflect increasing mental health need is difficult to argue since the only data available on suicide victims only come from the police report. Data from hospital are also reported to the police, but the district and provincial authority do not record the suicide mortality statistic. (Annex 16, Flow of Information on Suicide in Bali). However, increase reporting might reflect increasing attention thus can be seen as an opportunity for advocacy.

Within the context of mental health priority setting in Bali, the police department capacity in recording suicide is not accompanied by ability of mental health system to register health mortality statistic. This problem has result in difficulties to make a real "hard evidence" comparison of relative magnitude caused by suicide compared to other health problem in case of prioritization. Instead it has to rely on deduction logic.

The logic apply in this study is, neuropsychiatry disorder and self inflicted injury is the leading cause of DALY lost in Indonesia and suicide is a fatal outcome of severe neuropsychiatry disorder. Therefore, suicide is an important mental health problem which can be an entry point to increase attention for mental health care in Bali. In the future, improvement in health information system regarding mortality and morbidity is needed. Population based research on suicide in Bali, to further study the determinant such as the type of physical illness, socio-economic factors and marital status is needed. Study to explore meaning and measure impact of suicide also needed to support the evidence for intervention.

Structural Factors

During the adjustment process from 32 years of centralized bureaucracy in to decentralized and autonomous bureaucracy, health system in Indonesia has experienced

many changes. National guidelines, decree and various regulations come and go to restructure the public administration services. Sadly, often the focus of change are narrow, such as only address the change in the size of the structure not the function and largely ignore guidelines to manages organization culture change and problem faced by the local government (Yessi et al, 2005).

Changes on structure and function of health structure result from decentralization has been devastated for mental health, the absent of key structures and withdrawal of mental health care integration in primary care setting are some to mention. Lack in research on health public policy process in Indonesia, limit the ability of this paper to explore motive and process of change in policy content. Within the context of mental health system in Indonesia, low demand of mental health care and low performance of structure can be the reason for structure liquidation. However, low performance of the structure cannot be automatically judged as unneeded structure.

Chapter VI

Conclusions and Recommendations

6.1 Conclusions

- Analysis of technical factors influencing suicide prevention prioritization inside the mental health system supported suicide prevention as public health priority.
- Analyses on policy level support provision of suicide prevention, although the documents did not explicitly mention about suicide.
- The analysis on key implementers structure and function shows in implementation level many functional supports are absent. These structural barriers contribute to the inadequate respond of mental health system toward suicide prevention in Bali.
- Within the context of limited accessibility, stigma and mental health illiteracy mental health system should play a double role. The mental health system should be able to provide mental health services needed and create the demand to the services.
- Suicide prevention should compete with other health care priorities within the health system. The competition will be less likely to be even if the structure or agency dealing with mental health is absent or inadequate. Advocacy should also aim at structural factors. In order to embrace mental health service including suicide prevention programs into overall health system priority agenda. Since radical structural change may not be easy, this problem has to be acknowledged in order to find creative ways to deal with the structural barriers such as partnership and functional outsourcing.

6.2 Recommendations

6.2.1 Researchers

Along the way there are many questions raised about some important determinant of suicide in Bali in order to design a more effective interventions, those risk factors are:

- Correlation between suicide and socio economic background and marital status.
- Correlation between suicide attempt and ideation amongst various type of chronic physical illness.

Some other studies needed are:

- Follow up of this study trough key informant interview and validation workshop in order to validate and disseminate findings.
- Adaptation of patient health questioner to help improve diagnosis in shorter clinical encounter in primary care setting
- Evaluation on impact of suicide block training in mental health problem based learning for medical student in university of Udayana.

6.2.2 Advocacy Groups

- Content of advocacy: emphasize advocacy on the magnitude of the problem as well as the feasible interventions which are: general and targeted public awareness, medical practitioners' education and community based program for primary care level. At secondary level of care, settings up suicide treatment and reporting guidelines using evidence based interventions.
- Discuss technical factors barriers (cultural context, accessibility and cost effectiveness) and structural factors barriers in constructive manner, emphasize on the way to address barriers. e.g avoid dichotomies between western medicine and traditional medicine, embrace the aspiration for role of traditional healer in care seeking. Emphasize on possibilities of outsourcing of function rather then judging the failure.
- Aimed at structural factors as a part of advocacy strategy; e.g advocacy for implementation of MoH, Decision Paper no 267 year 2008 for all district health authority to have mental health section.
- Develop advocacies for development of local mental health strategic plan.

6.2.3 Local Government

Technical Level:

- Reintegration of basic mental health care into primary care in Puskesmas.
- Piloting on refreshment training of primary care doctors, start from public care services such as Puskesmas.
- Piloting partnership for training and creating professional incentive for mental health care course for private practitioners with professional organizations.
- Piloting community based program contained education on common mental health disorder, self assessment, healthy coping mechanism and care seeking route. This education program should be coupled with community support group such as community based befrienders especially for the previously defined potential target group e.g farmers, elderly age 50 – 61, people with chronic illness.
- Start with general awareness campaign followed by primary care physician training. Development of community based mental health program, should follow afterward.

Structural Level:

- Develop local mental health policy framework with budget attached to the plan
- Develop mental health section or embrace the function within the district health authority using the current MoH guidelines as basis (MoH, Decicion paper no 267/2008)
- Outsourcing on some of the function of mental health section within district health authority if the structure is absent or overburdened. The functions mentioned for example are: training provision and design of professional incentive scheme in partnership with professional organization e.g psychiatric association and medical doctors associations. Design of community based interventions and design of mental health information system and registration

such as appropriate indicators with public health professional and mental health professional in university.

- Develop community mental health advisory team or embrace the function within district health commission which ever appropriate based on resources and stakeholders analysis.
- Empowerment of the current structure, (mental health section and public mental health advisory team) if structure is already presents trough workshop on public mental health problem, decision making and priority setting
- To address barrier in functional level of community mental health advisory team, which has high power but limited time to conduct operational function, outsourcing for functional assistance should be encouraged e.g assistance in development of mental health strategic plan.

6.2.5 Central Government

Renewal of mental health policy and strategic plan is recommended, concern on legal power and budget attachment to ensure implementation. Legal power given to mental health policy should aim at ministry level not directorate. Budget also must be attached to the strategic plan for assistance, supervision and monitoring of implementation and development of local mental health strategic plan and agency.

References:

Abdullah H, Stoelwinder J, Decentralization and health resources allocation; a case study at the district level in Indonesia, World Health Popul,2007 Dec;9 (4);5-16

Ahmadi A, Yttersad B, Prevention of self immolation by community based intervention, Burns December 33 (8); 1032-40

Astley Graham W, Van de Ven Andrew H; Central Perspective and Debates in Organization Theory; Administrateive Quarterly, vol 28 no.2 June 1983, pp 245 – 273

Avasti A, Varma, S C, Kulhara P, Grover S, Sharma S, Diagnosis of common mental disorders by using PRIME-MD, Patient Health Questionnaire, Indian J Med Res 127, February 2008, pp 159-164

Bali Provincial Central for Statistical Biro (BPS of Bali Province) "Bali in Figures 2007". Published in 2007, year of data collection 2006.

Bali Provincial Police Department Report on suicide, unpublished (January 2007 until October 2007)

Bali Demographic and Health Statistic of Bali Province,2006, Bali Center of Statistical Biro (print version)

Bali Pharmacy Ware House Report on Essential Drug List Available at Puskesmas in Bali, 2007. Available at
http://www.depkes.go.id/downloads/profil/prov%20bali%202007.pdf

Beautrais, A , Fergusson D, et all, Effective strategies for suicide prevention in New Zealand; a review of the evidence. Journal of the New Zealand Medical Association, 23 march 2007 vol 120 no 1251

Becker Susan M, Detection of somatization and depression in primary care in Saudi Arabia, Soc Psychiatry Psychiatry Epidemiology (2004) 39: 962-66

Bhui, Bhugra et all, Causal explanations of distress and general practitioners' assessments of common mental disorder among Punjabi and English attendees. Social Psychiatry and Psychiatric Epidemiology, Vol 37 number 1/January 2002

Bhugra d, Hicks MH, Effect of an educational pamphlet on help seeking attitude for depression among British south Asian women. Psychiatric Services, 2004 July 55; 827-9

Bobadilla, Jose Luis; Priority Setting and Cost Effectiveness, in Katja Janosky; Health Policy and System development, an agenda for research; WHO,1996 pg 43-60

Brunstein Klomek A, Stanley B. Psychosocial treatment of depression and suicidality in adolescents; CNS Spectr. 2007 Feb;12(2):135-44.

Bracken Patrick, Thomas Philip; Post psychiatry; a new direction for mental health; Education and Debate; BMJ Volume 322, 24 March 2001

Comtois KA; A review of interventions to reduce the prevalence of parasuicide. Psychiatr Serv. 2002 Sep;53(9):1138-44

Cipriani, Andrea M.D, Heather Pretty, M.L.I.S., Keith Hawton, D.Sc, John R. Geddes, M.D.Lithium in the Prevention of Suicidal Behavior and All-Cause Mortality in Patients With Mood Disorders: A Systematic Review of Randomized Trials (Am J Psychiatry 2005; 162:1805–1819)

Desjarlas Robert, Eisenberg Leon, Good Byron, Kleinman Arthur; World Mental Health; Problem and Priorities in Low Income Country, Oxford University Press, 1995 pg 68 -86

De jong, Joop TVM, Public Mental Health Traumatic Stress and Human Right Violation in Low income countries; A culturally Appropriate Model in Times of Conflict Disaster and Peace; 2001, pg 45 -65, Electronic Copy

Depkominfo,2007 Maternal Mortality Rate and Infant Mortality Rate in Bali is low; available at
http://www.depkominfo.go.id/portal/?act=detail&mod=berita&view=1&id=BRT0710251 63101

Disease Control Priorities in Developing Countries, second edition, 2006
http://www.dcp2.org/slides/214/

Dhyatmikawati, Study on suicide case in Bali, Law Faculty; University of Dwijendra; Bali 2006

Gani Ascobat; Presentation on Advocacy for Maternal Neonatal Child Health in Indonesia, Denpasar; Bali 30 August 2005

Government of Indonesia, Official site of Government of Republic of Indonesia available at: http://www.indonesia.go.id/id/index.php,

Government of Indonesia, Law on Mental Health no 3 year 1966

Government of Indonesia, Law on Health no 23 year 1992

Gunnell David, Olive Benewith, Keith H The epidemiology and prevention of suicide by hanging; a systematic review, International Journal of Epidemiology, 2005; 433-442,

Gunnel D, Fernando R, Hewagama M, Priyangika WDD, Kondradsen F, Eddleston M; The impact of pesticide regulations on suicide in Sri Lanka, International Journal Of Epidemiology, 2007, December 36(6)

Gunnel D, Frankel S; Prevention of suicide: aspirations and evidence, *BMJ* 1994;308:1227-1233 (7 May) . Education and debate

Ham Cris, Pririty Setting in Health in Katja Janosky; Health Policy and System development, an agenda for research; WHO,1996 pp 25 – 41

Huong Tran Thi Thanh, Trung Nam Tran, Guo-Xin Jiang, Antoon Leenaars, Danuta Wasserman; Life time suicidal thoughts in an urban community in Hanoi, Vietnam**;** BMC Public Health. 2006; 6: 76.

Holloway Frank, Resource Allocation, How some basic concepts affect practice; Psychiatry 6; 2, Elsevier 2006

Hofstede Geert; National Cultures Revisited; Cross-Cultural Research, Vol. 18, No. 4, 285-305(1983)

J. Zhang, Y Conwell, L Zhou, C Jiang: Culture, risk factors and suicide in rural China: a psychological autopsy case control study, Acta Psychiatr Scand 2004: 110: pp 430 -37

Jacob, KS, Bhugra KR Lloyd, AH Mann, Common mental disorders, explanatory models and consultation behaviour among Indian women living in the UK, J R Soc Med. 1998 February; 91(2): 66–71

Jacob KS, Sharan P, Mirza I, Garrido-Cumbrera M, Seedat S, Mari JJ, Sreenivas S, Saxena Shekar; Mental Health System in Countries; Where are we now?; Lancet; vol 370; September 22, 2007; pp 1061-1077

Kermode M, Herrman H, Arole R, White J, Premkumar R, Patel V. Empowerment of women and mental health promotion; a qualitative study in rural Mahasastra India, BMC Public Health, 2007 Augustus 31

Kurihara T, Kato M, Accessibility and utilization of mental health care in Bali; Letter to Editor, Psychiatry and Clinical Neuro Science (2007),61, 205

Kurihara T, Kato M, Reverger R, Rai Tirta, Pathway to Psychiatric Care In Bali, Psychiatry and Clinical Neuro Science(2006), 60, 204 - 210

Kurihara T, Kato M, Sakamoto S, Reverger R, Kitamura T Public attitudes towards the mentally ill: a cross-cultural study between Bali and Tokyo Psychiatry Clin Neurosci. 2000 Oct;54(5):547-52.

Luoma Jason B, Martin Catherine E, Pearson Jane L, Contact with Mental Health and Primary Care Providers Before Suicide; A Review of Evidence; Am J Psychiatry; 159; 909-916 June 2002

Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, Hegerl U, Lonnqvist, Malon K, Marusic A, Mehlum L, Patton G, Philips M, Rutz W, Rihmer Z, Schmidtke A, Shaffer D, Silverman M, Takahashi Y, Varnik A, Waserrman D, Yip P, Hendin H.; Suicide prevention strategies: a systematic review. Journal of the American Medical Association 2005;294;2064-74.

Maramis W F, Notes on Psychiatry; Section on, History of Psychiatry Service in Indonesia; Airlangga University Press, 1998 *(Available in Bahasa Indonesia)*

Motohashi.Y, Keneko,Y Sasaki H, Yamaji M; A decrease in suicide rates in Japanese rural towns after community based intervention by the health promotion approach, Suicide, Life Threatening Behaviour, 2007 October; 37(5) P; 593-9

Ministry of Health Decree; No.130/Menkes/SK/I/2000 tanggal 26 Januari tentang Organisasi dan Tata Kerja (organization and task of ministry of health)

Ministry of Health Decree; No1575 year 2005 *Tentang Organisasi dan Tata Kerja Departemen Kesehatan* (organization and task of ministry of health)

Ministry of Health 2001, *Konsep Puskesmas di era Desentralisasi* (Consept of Community Health Centers in Decentralization Era)

Ministry of Health, Directorate General of Community Health, 2001, *Buku Pedoman TPKJM,* Guidelines for Community Mental Health Team

Muninjaya, Yessi, Setyawati, Critical Phase Before Suicide Attempt; Case Study of Suicide Attempter in Sanglah Hospital; Center for Health Service Management Udayana; 2007

Mental Health Policy and Plan 2001 – 2005, Ministry of Health, Directorate General of Community Health, Jakarta 2001 (Print version, in English is Availabe at; http://www.searo.who.int/LinkFiles/On-going_projects_Indo_MHP-2001.pdf

Mental Health Strategic Plan 2001 -2004, Ministry of Health, Directorate General of Community Health, Jakarta 2001 (Print version, Bahasa Indonesia Only)

Ministry of Health Decision Paper no 267 year 2008, Technical guidelines for provincial and district health organization structure

Oyama H, Ono Y, Watanabe N, Tanaka E, Kudoh S, Sakashita T, Sakamoto S, Neichi K, Satoh K, Nakamura K, Yoshimura K. Local community intervention through depression

screening and group activity for elderly suicide prevention. Psychiatry Clin Neurosci. 2006 Feb;60(1):110-4.

Oyama H, Watanabe N, Ono Y, Sakashita T, Takenoshita Y, Taguchi M, Takizawa T, Miura R, Kumagai K. Community based suicide prevention trough group activity for the elderly successfully reduces the high suicide rates for female, Psychiatry Clinical Neoroscience, 2005 June 59(3), 337 – 44

Oyama H, Koida J,Sakashita T, Kudo K; Community Based Prevention for suicide in elderly by depression screening and follow-up, Community Mental Health Journal, 2004, June40(3) 249 – 63

Ono Yutaka; Suicide Prevention Program for the elderly; the experience in Japan, Keio J Med 53 (1); 1- 6, March 2004

Paul WC Wong, Wincy SC Chan, Eric YH Chen, Sandra SM Chan, YW Law, Paul SF Yip, Suicide among adult aged 30 -49; A psychological autopsy study in Hongkong, BMC public health I may 2008

Philips MD, Hui Long, G yang; Suicide and attempeted suicide in China, 1990 – 2002, CDC MMWR weekly, June 11, 2004

PDSKJI; Denpasar Psychiatrist Associations; Member Report; 2007

PP no 84 year 2000, Guidelines for development of local authority Team

PP no 8 year 2003, Guidelines for development of local authority Team

PP no 38 year 2007, Division on task and function between national, provincial and district government

PP no 41 year 2007, Organization of government structure at provincial and district level

Perda (Local Decree) Tabanan, No. 3, 2001 *Tentang Pembentukan Susunan Organisasi Dinas-Dinas Daerah Kabupaten Tabanan.* Organizations of Local Authorities

Perda (Local Decree) Klungkung No. 1, 2001 *Tentang Struktur Organisasi Perangkat Daerah Kabupaten Klungkung*. 2001. Structure of Local Authorities

Perda No. (Local Decree) Denpasar, 13, 2004 *Tentang Struktur Organisasi dan Perangkat Daerah Kota Denpasar*. Structure of Local Authorities

Perda (Local Decree) Bali; No. 2, 2001 *Tentang Pembentukan Susunan Organisasi, Tata Kerja Perangkat Daerah Provinsi Bali.* Development of Structure and Function of Provincial Authority

Perda (Local Decree) Jembrana No. 10, 2003 *Tentang Pembentukan Susunan Organisasi dan Tata Kerja Perangkat Daerah dan Sekretariat DPRD Kabupaten Jembrana.* Structure of Local Authorities, district secretary and district representative

Perda (Local Decree) Buleleng; No. 8, 2004 *tentang Pembentukan, Susunan Organisasi dan Tata Kerja Dinas Kesehatan Kabupaten Buleleng.* Development and structure of local authorities

Perda (Local Decree) Bangli; No. 13, 2003 *Tentang Pembentukan Organisasi Dinas Kesehatan Kabupaten Bangli.* Development and structure of local authorities

Perda (Local Decree) Karang Asem; No. 14; 2004 *Tentang Pembentukan Susunan Organisasi dan Tata Kerja Dinas Kesehatan Kabupaten Karang Asem.* Development and structure of local authorities

Perda (Local Decree) Gianyar; No. 3; 2004 *Tentang Pembentukan Susunan Organisasi Dinas-Dinas di Kabupaten Gianyar dan Tata Kerja Dinas Kabupaten.* Development and structure of local authorities

Rabinowitz J, Gross R, Feldman D, Perceived Need and Receipt of Outpatient Mental Health Services, Factors Affecting Access in Israeli HMOs, J Ambulatory care Manage, Vol 26 No 3 pp 260-69, 2003

Rondinelli D et al."Decentralization in Developing Country". Washington DC, World Bank. 1983

SK Badung; *Surat Keputusan Bupati* No. 1615 Tahun 2001 Tentang Uraian Tugas Dinas-Dinas Kabupaten Badung. Head of District Decision Paper on Job Description of Local Authorities

SK Bali; Decree of Provincial Secretary; *Keputusan Sekretaris Daerah Propinsi Bali,* no 441, March 2004, Organization, membership and task of Bali provincial community mental health board

SK Jembrana; *Keputusan Bupati Jembrana*; Head of District Decision Paper no 1312 June 2004; Organization, membership and task of Bali provincial community mental health board

SK Buleleng; *Keputusan Bupati Buleleng*; Head of District Decision Paper no 98 April 2005; Organization, membership and task of Bali provincial community mental health board

SK Gianyar; *Keputusan Bupati Gianyar*; Head of District Decision Paper no 168 May 2004; Organization, membership and task of Bali provincial community mental health board

Setyawati Lely, Sp.Kj,(head of inpatient psychiatric section, Sanglah Hospital) Report on suicide case in Sanglah Hospital 2006, Presented in suicide prevention seminar, Sanglah Hospital June 2007 *(Available in Bahasa Indonesia)*

Sanchez Francis, Albert Gaw, Mental Health Care of Filipino Americans; Psychiatr Serv 58:810-815, June 2007

Saxena S, Thornicroft G, Knapp M, Whiteford H, Resources for Mental Health; scarcity, inequity, and inefficiency; Lancet vol 370, September 8, 2007

Saraceno B, van Ommeren M, Batniji R, Cohen A, Gureje O, Mahoney J, Sridhar D, Underhill C; Barriers to Improvement of Mental Health Services in Low-income and Middle Income Countries; Lancet vol 370 September 29, 2007

Susanto, A, Mental Health, New Understanding, New Hope, news article, Kompas news paper, Friday 12 October 2001

Tarrier Nicholas, Katherine Taylor, Patricia Gooding; Cognitive-Behavioral Intervention to Reduce Suicide Behavior; A Systematic Review and Meta Analysis; Behaviour Modification, 2008; 32; 77 Sage Publication

Tugby D, Tugby E, Law HG The attribution of mental illness by rural Balinese; Aust N Z J Psychiatry. 1976 Mar;10(1A):99-104.

Trisnantoro L,Ferdiana A, Sejarah Desentralisasi Kesehatan di Indonesia, History of Health Decentralization in Indonesia, PMPK, 2006

Tilden R, Gani A, Nur N, Sonneman J, The effect of Decentralization on the Health Status and Health Care Utilization Pattern in Indonesia, Ministry of Health, ADB and EPOS Draft Paper 2006

Tzeng Wen-Chii, Lipson Juliene G, Health Professionals' perspectives of suicide in Taiwan: Issues in Mental Health Nursing: 26: 451 – 463, 2005

Vijayakumar, L Suicide and Mental Disorder in Asia, International Review of Psychiatry, April 2005 17 (2) P; 109 -114

Westa W, Profile of suicide attempter in Sanglah General Hospital 2005, Udayana Medical Journal, No 134 October 2006 print version *(available in Bahasa Indonesia)*

WHO, Suicide Rate, by country and Gender 2003, http://www.who.int/mental_health/prevention/suicide/suiciderates/en/

WHO Global Burden of Disease Estimate 2002, Country estimates available at: http://www.who.int/research/en/

WHO mental health atlas 2005, Indonesia country profile

WHO, 2004, Indonesia country profile, health expenditure, for year 2003

WHO, 2004, Suicide huge but preventable public health problem, says WHO; World Suicide Prevention Day - 10 September available at; http://www.who.int/mediacentre/news/releases/2004/pr61/en/

World Health Report, 2000: Health systems: Improving performance, available at http://www.who.int/whr/2000/en/

Windia P, *Ulah Pati,* Suicide in Balinese culture, 2006 *(Bahasa Indonesia)*

Wiyana I.B, Suicide within Hindu Perspective, 2006 *(Bahasa Indonesia)*

Wynaden D, Chapman R, Orb A, McGowan S, Zeeman Z, Yeak S. Factors that influence Asian communities' access to mental health care. Int J Ment Health Nurs. 2005 Jun;14(2):88-95

Yessi C O, Muninjaya, Januraga, Yahya; Organization Structure Variations of Public Health Institutions; Case Study of Post Decentralization in Bali; Journal of Health Service Management; Vol 09; December 4, 2006 pp 198 – 208 *(available in Bahasa Indonesia)*

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Annex

ANNEX 1: TOP 5 MORTALITY AND MORBIDITY INDONESIA

Top 5 Mortality and Morbidity Cause in Indonesia, WHO; 2002 estimate	
Mortality	**Morbidity**
1 Ischemic Heart Disease	Neuropsychiatry Disorder
2 Tuberculosis	Cardiovascular Disease
3 Cerebrovascular Disease	Perinatal Condition
4 Lower Respiratory Track Infection	Tuberculosis
5 Perinatal Condition	Malignant Neoplasma

ANNEX 2: MAP OF FISCAL CAPACITY DISTRIBUTION; BREAK DOWN AT DISTRICT LEVEL IN BALI PROVINCE

Source: Discussion Materials for Decentralization Block (Undated), year of data 2002, Decentralized Health Services Project – 1 (MoH, ADB)
http://www.desentralisasi-kesehatan.net/id/moduldhs/blok_1.htm

The X axis showing the fiscal capacity of the population (purchasing power)
The Y axis showing the fiscal capacity of the district government (supplying power)
Most District (*Kabupaten*) government in Bali has a strong fiscal capacity

MATRIKS KEMAMPUAN FISKAL DAERAH DAN EKONOMI MASYARAKAT KABUPATEN - PROPINSI BALI
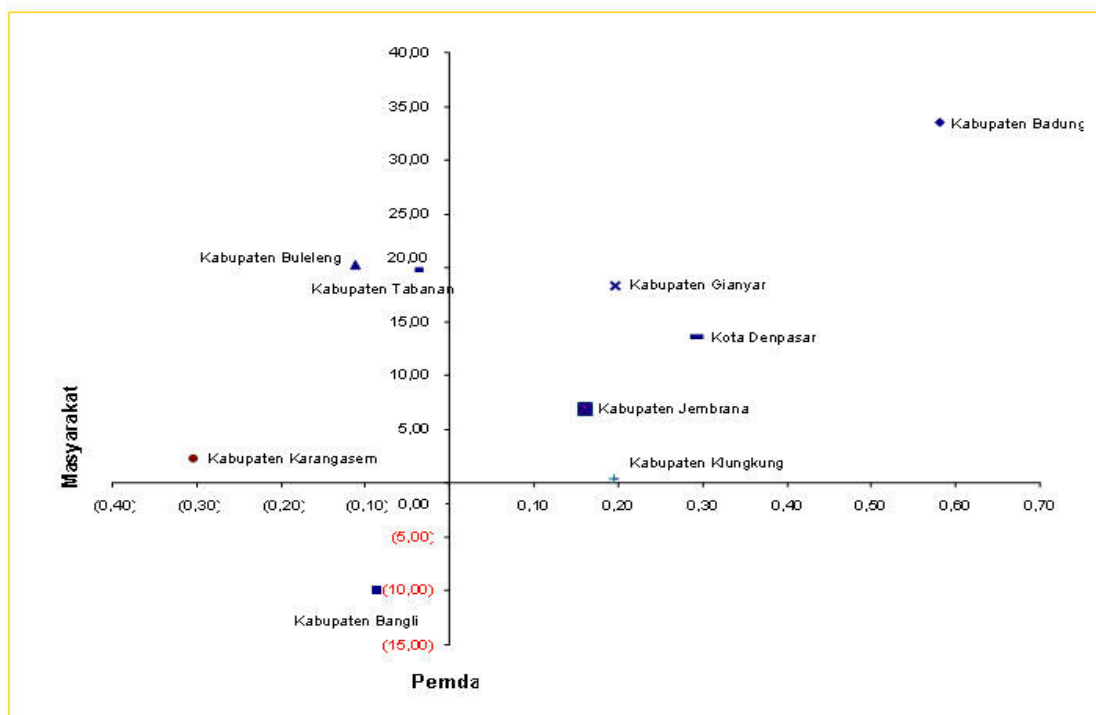
ANNEX 3: MAP OF POVERTY DISTRIBUTION IN BALI, 2004
Source: Indonesia Central Statistical Biro, BPS

ANNEX 4: MOH LIST OF NEUROPSYCHIATRY'S ESSENTIAL PUBLIC DRUGS FOR PUBLIC PRIMARY HEALTH CARE FACILITIES
Source: MoH list of essential public drugs for primary health care
Available at http://www.binfar.depkes.go.id/def_menu.php

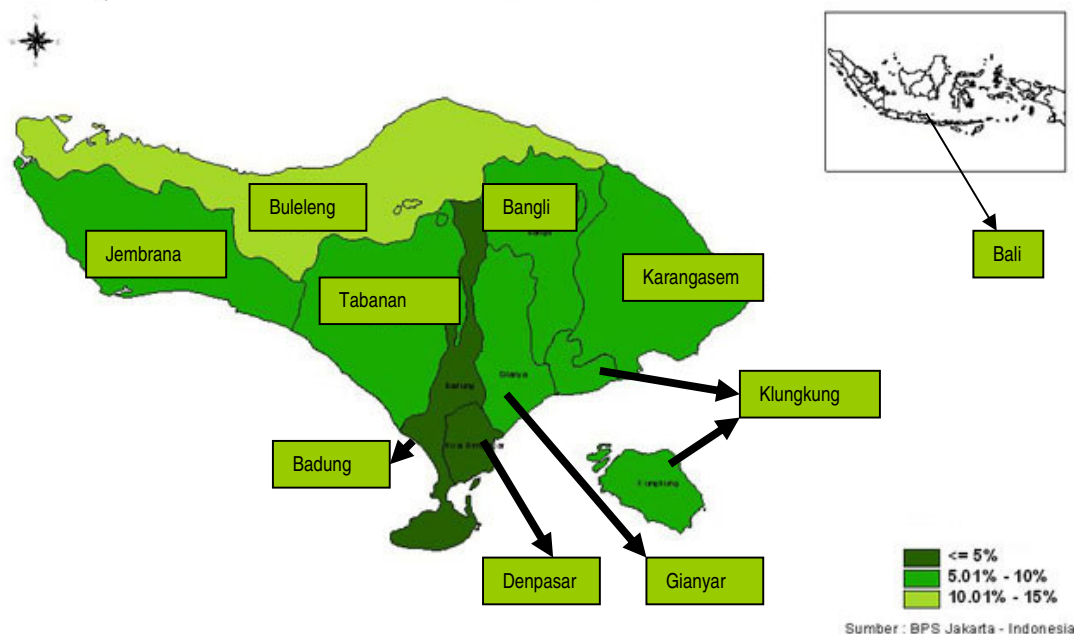| Drugs |
|---|
| Amitriptilin HCl tablet salut 25 mg |
| Antimigren: Ergotamin Tartrat 1 mg + Kofein 50 mg |
| Antiparkinson DOEN tablet kombinasi: Karbidopa 25 mg + Levodopa 250 mg |
| Diazepam injeksi 5 mg/ml - 2 ml |
| Diazepam tablet 2 mg |
| Diazepam tablet 5 mg |
| Fenitoin Natrium injeksi 50 mg/ml |
| Fenobarbital injeksi 50 mg/ml - 1 ml |
| Fenobarbital tablet 30 mg |
| Haloperidol tablet 0,5 mg |
| Haloperidol tablet 1,5 mg |
| Haloperidol tablet 5 mg |
| Karbamazepin tablet 200 mg |
| Klorpromazin HCl injeksi 5 mg/ml - 2 ml |
| Klorpromazin HCl injeksi 25 mg/ml – 1 ml (*SK.720 : kemasan 2 ml*) |
| Klorpromazin HCl tablet salut 25 mg |
| Klorpromazin HCl tablet salut 100 mg |

ANNEX 5: MENTAL HEALTH RESEARCH IN INDONESIA AND NEIGHBORING COUNTRY
Method: Literature search trough Pub-Med with Key Search Term "Mental Health AND Country Name"

Country	Number of Research Found
Indonesia	90
Philippines	83
Singapore	307
Malaysia	103
Thailand	154
USA	38620
Netherlands	2385

ANNEX 6: LIST OF MENTAL HEALTH RESEARCH TOPIC ABOUT INDONESIA

Topic	Number of Research
Disaster and Conflict	14
Child Psychiatry, Nutrition and Brain Development	14
Anthropology and Transcultural Psychiatry	8
Mental Health System and Mental Health Utility Pattern	5
Substances Abuse and HIV/AIDS	3
Psychosis	3
Mental health and Socioeconomic Determinant	3
Women's health and Common Mental Disorder	2
Total	52

ANNEX 7: LIST OF MENTAL HEALTH RESEARCH ABOUT BALI

Research	Published
Tugby D, Tugby E, Law HG. The attribution of mental illness by rural Balinese.	Aust N Z J Psychiatry. 1976, Mar;10(1A):99-104
Thong D; Psychiatry in Bali.	Aust N Z J Psychiatry. 1976 Mar;10(1A):95-7.
Connor, LH; Ships of fools and vessels of the divine: mental hospitals an madness, a case study	Soc Sci Med. 1982;16(7):783 -94.
Kurihara T, Kato M, Tsukahara T, Takano Y, Reverger R.The low prevalence of high levels of expressed emotion in Bali.	Psychiatry Res. 2000 Jul 17;94(3):229-38
Kurihara T, Kato M, Sakamoto S, Reverger R, Kitamura T; Public attitudes towards the mentally ill: a cross-cultural study between Bali and Tokyo.	Psychiatry Clin Neurosci. 2000 Oct;54(5):547-52
Kurihara T, Kato M, Reverger R, Tirta IG; Pathway to psychiatric care in Bali.	Psychiatry Clin Neurosci. 2006 Apr;60(2):204-10
Kurihara T, Kato M; Accessibility and utilization of mental health care in Bali.	Psychiatry Clin Neurosci. 2007 Apr;61(2):205

III

**ANNEX 8: STUDIES ON SUICIDE PREVENTION AND INTERVENTION IN ASIA**

No	Author	Title	Method	Subject
1	Ahmadi A, Ytterstad B.	Prevention of self-immolation by community-based intervention	Quasi Experimental	General Citizen, Iran Cities
2	Gunnell D, Fernando R, Hewagama M, Priyangika WD, Konradsen F, Eddleston M.	The impact of pesticide regulations on suicide in Sri Lanka.	Ecological Study	Sri Lanka, Suicide Trend
3	Motohashi Y, Kaneko Y, Sasaki H, Yamaji M.	A decrease in suicide rates in Japanese rural towns after community-based intervention by the health promotion approach.	Quasi Experimental	General Population of Japan Rural Town
4	Kermode M, Herrman H, Arole R, White J, Premkumar R, Patel V.	Empowerment of women and mental health promotion: a qualitative study in rural Maharashtra, India.	Qualitative Study	Women, Rural India
5	Oyama H, Ono Y, Watanabe N, Tanaka E, Kudoh S, Sakashita T, Sakamoto S, Neichi K, Satoh K, Nakamura K, Yoshimura K.	Local community intervention through depression screening and group activity for elderly suicide prevention	Quasi Experimental	Elderly Population, Rural Japan
6	Oyama H, Watanabe N, Ono Y, Sakashita T, Takenoshita Y, Taguchi M, Takizawa T, Miura R, Kumagai K.	Community-based suicide prevention through group activity for the elderly successfully reduced the high suicide rate for females	Quasi Experimental	Elderly, Japan
7	Oyama H, Koida J, Sakashita T, Kudo K.	Community-based prevention for suicide in elderly by depression screening and follow-up	Quasi Experimental	Elderly, Japan
8	Ono Y.	Suicide prevention program for the elderly: the experience in Japan	Review	Japan Article

ANNEX 9: INTERNATIONAL REVIEWS STUDIES ON SUICIDE PREVENTION AND INTERVENTION

No	Author	Topic	Method	Title
1	Mann J, et al	General Interventions	Systematic Review	Suicide Prevention Strategies, Asystematic Review
2	Beautrais et al	General Interventions	Review	Effective Strategies for Suicide Prevention in New Zealand
3	D Gunnell, S Frankel	General Interventions	Systematic Review	Prevention of suicide: aspirations and evidence
4	Comtois KA.	General Interventions	Systematic Review	A review of interventions to reduce the prevalence of parasuicide
5	Mike J Crawford, Olivia T, et al	Psycotheraphy	Systematic Review	Psychosocial interventions following self-harm Systematic review of their efficacy in preventing suicide
6	Brunstein Klomek A, Stanley B,	Psycotheraphy	Systematic Review	Psychosocial treatment of depression and suicidality in adolescents.
7	Tarrier N et al	Psycotheraphy	Systematic Review and Meta analysis	Cognitive Behavioral Interventions to Reduce Suicide Behavior; A systematic Review
8	Meltzer,HY et al	Pharmacotheraphy	Randomized Trial	Clozapine Treatment for Suicidality in Schizophreania ; International Suicide Prevention Trial
9	Andrea Cipriani, M.D, Heather Pretty et al	Pharmacotheraphy	Systematic Review	Lithium in the Prevention of Suicidal Behavior and All-Cause Mortality in Patients With Mood Disorders: A Systematic Review of Randomized Trials
10	Möller HJ.	Pharmacotheraphy	Systematic Review	Is there evidence for negative effects of antidepressants on suicidality in depressive patients? A systematic review
11	Hall WD, Lucke J.	Pharmacotheraphy	Systematic Review	How have the selective serotonin reuptake inhibitor antidepressants affected suicide mortality?
12	Keith Hawton, Ella Arensman, et al	Pharmacotheraphy and Psycotheraphy	Systematic Review	Deliberate self harm: systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition

ANNEX 10: BOBADILLA, THE DOMAIN OF SETTING HEALTH PRIORITIES
Sources : Bobadilla, 1996
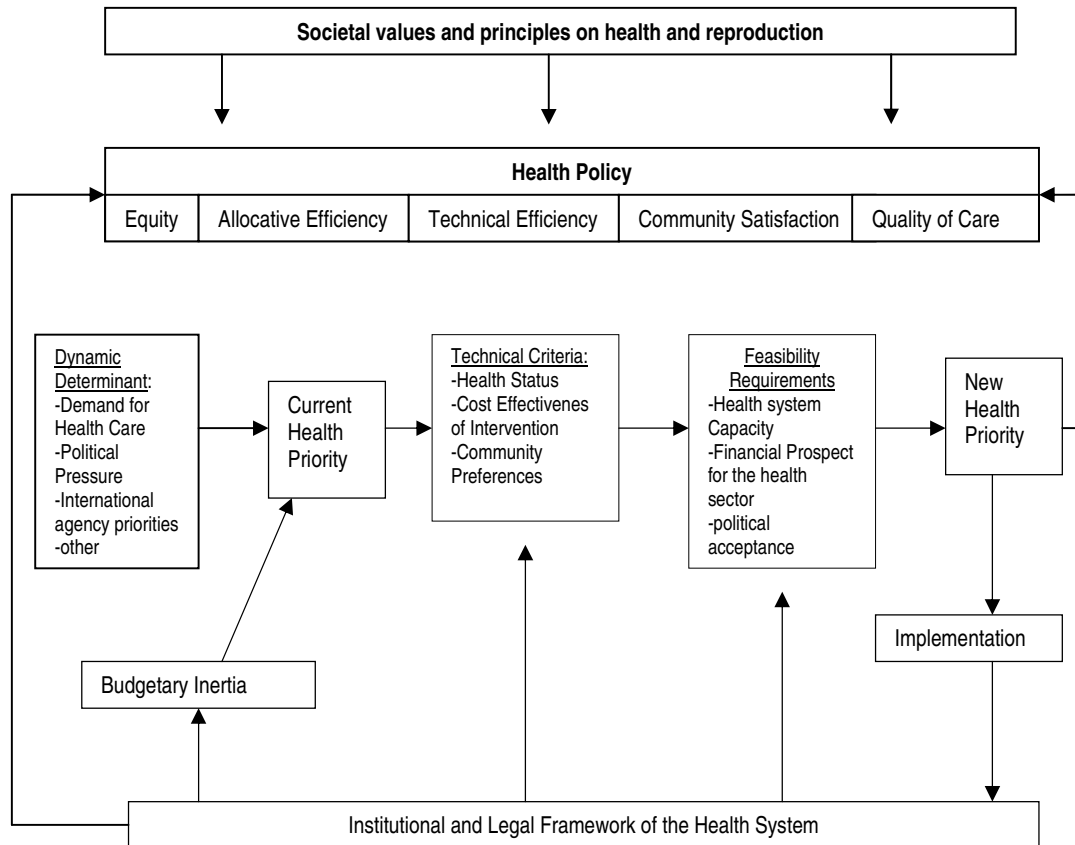
ANNEX 11: DE JONG, PUBLIC MENTAL HEALTH CRITERIA FOR THE SELECTION OF PRIORITIES FOR TRAINING AND MENTAL HEALTH INTERVENTIONS
Source: De jong, 2001
- Prevalence and the role of epidemiology
- Community Concern
- Seriousness
- Treatability or Feasibility of Treatment
- Sustainability
- Knowledge, Skills and Availability of Mental Health Care Professionals
- Political Acceptability
- Ethical Acceptability
- Cultural Sensitivity
- Cost effectiveness

ANNEX 12 : SUICIDE EPIDEMIOLOGY IN BALI

Source of Data : Dhaytmikawati, Bali Police Report, Westa

a. Incidences over time

Year	Number of Cases
2001	70
2002	81
2003	63
2004	113
2005	131
2006	158
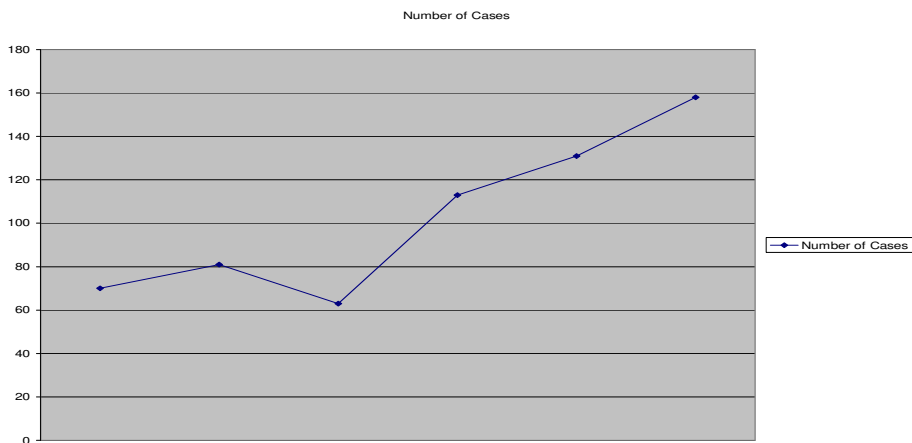
Number of Cases

b. Age Distribution

Category Number	Age Range	Number of Cases	Percentage
1	< 20	74	16,16
2	21 -30	119	25,98
3	31 – 40	85	18,56
4	41 – 50	54	11,79
5	51 – 60	48	10,48
6	> 61	78	17,03
	Total	458	100%

Case Distribution by Age Group
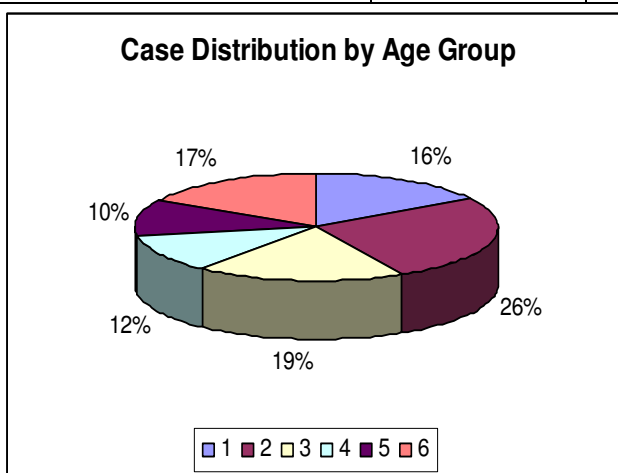
c. Sex Distribution

Category Number	Sex	Cases	Percentage
1	Male	301	65,72
2	Female	157	34,28
	Total	408	100

Case Distribution by Sex

34%

66%

□ 1 ■ 2
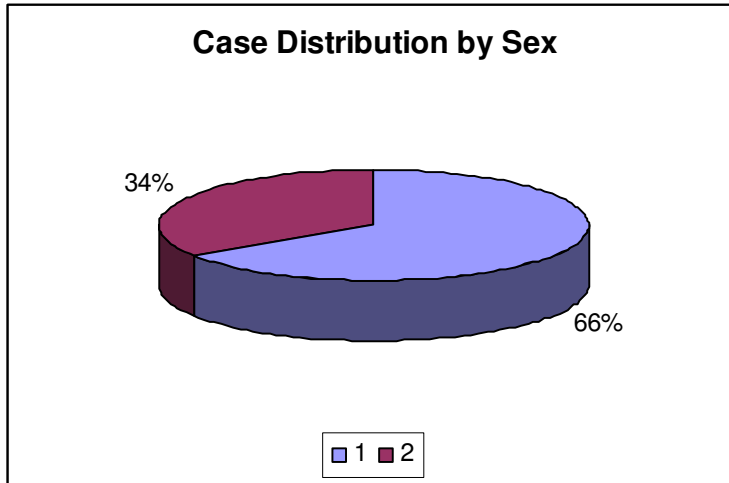
d. Possible Cause

Category Number	Possible Cause	Cases	Percentages
1	Psychical Illness	152	33,19
2	Family Matters	69	15,06
3	Unspecified Stress	68	14,85
4	Economic	47	10,26
5	Love Matters	26	5,68
6	Other	96	20,96
	Total	458	100%

Case Distribution by Possible Cause

21%

6%

10%

15%

15%

33%

□ 1 ■ 2 □ 3 □ 4 ■ 5 ■ 6
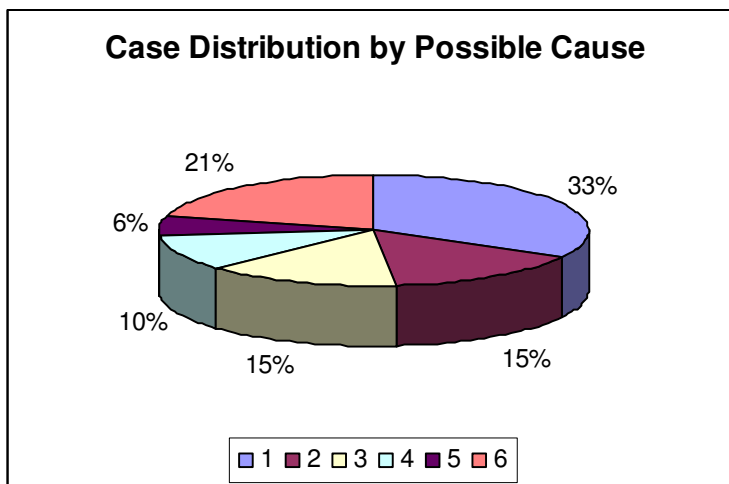
e. **Method**

Category Number	Method	Cases	Percentages
1	Hanging	387	84,50
2	Self Poisoning	48	10,48
3	Other, jumping from high altitude, stabbing etc	23	5,02
	Total	458	100%
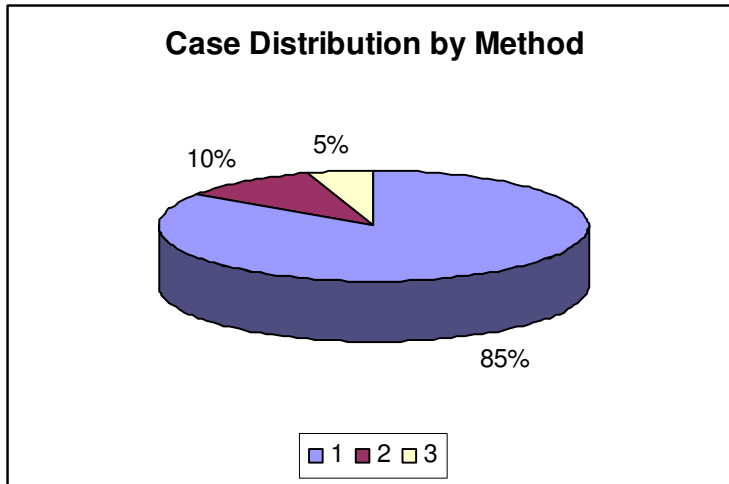
f. **Sex Distribution of Attempted Suicide, Sanglah Hospital year 2005**

Category Number	Sex	Cases	Percentage
1	Male	31	29,8
2	Female	73	70,2
Total		104	100%
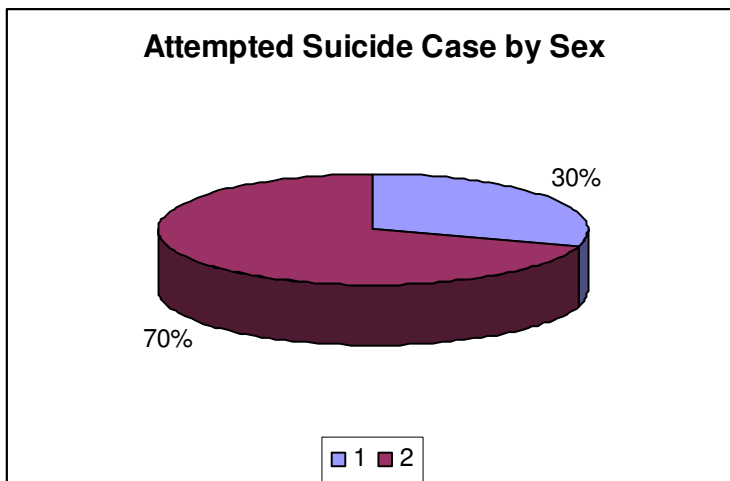
ANNEX 13: THE WARNING SIGNS OF SUICIDE
http://www.befrienders.org.my/lost.htm

- Feelings of hopelessness
- Expressions of wanting to end it all
- Depression over a long period
- Change in behavior, e.g. tension, sadness or anxiety
- Great change in eating and sleeping habits
- Giving away of precious possessions or making final arrangements
- Feelings of withdrawal
- Deep or prolonged grief over any loss – a death, a parting, break-up of a relationship
- Overwhelming guilt or self-hate

ANNEX 14: THE SYMPTOMS OF DEPRESSION
http://www.helpguide.org/mental/depression_signs_types_diagnosis_treatment.htm
Clinical depression is distinguished from situational depression by length and severity; the symptom should be present at least two week to be diagnose as clinical depression.

Feelings of helplessness and hopelessness A bleak outlook—nothing will ever get better and there's nothing you can do to improve your situation.

Loss of interest in daily activities No interest in or ability to enjoy former hobbies, pastimes, social activities, or sex.

Appetite or weight changes Significant weight loss or weight gain—a change of more than 5% of body weight in a month.

Sleep changes Either insomnia, especially waking in the early hours of the morning, or oversleeping (also known as hypersomnia).

Psychomotor agitation or retardation Either feeling "keyed up" and restless or sluggish and physically slowed down.

Loss of energy Feeling fatigued and physically drained. Even small tasks are exhausting or take longer.

Self-loathing Strong feelings of worthlessness or guilt. Harsh criticism of perceived faults and mistakes.

Concentration problems Trouble focusing, making decisions, or remembering things.

ANNEX 15: WHO ALGORITHM OF FINANCING OPTION FOR HEALTH CARE
Source: WHR 2000

—————— Possible Path for Suicide Prevention Financing
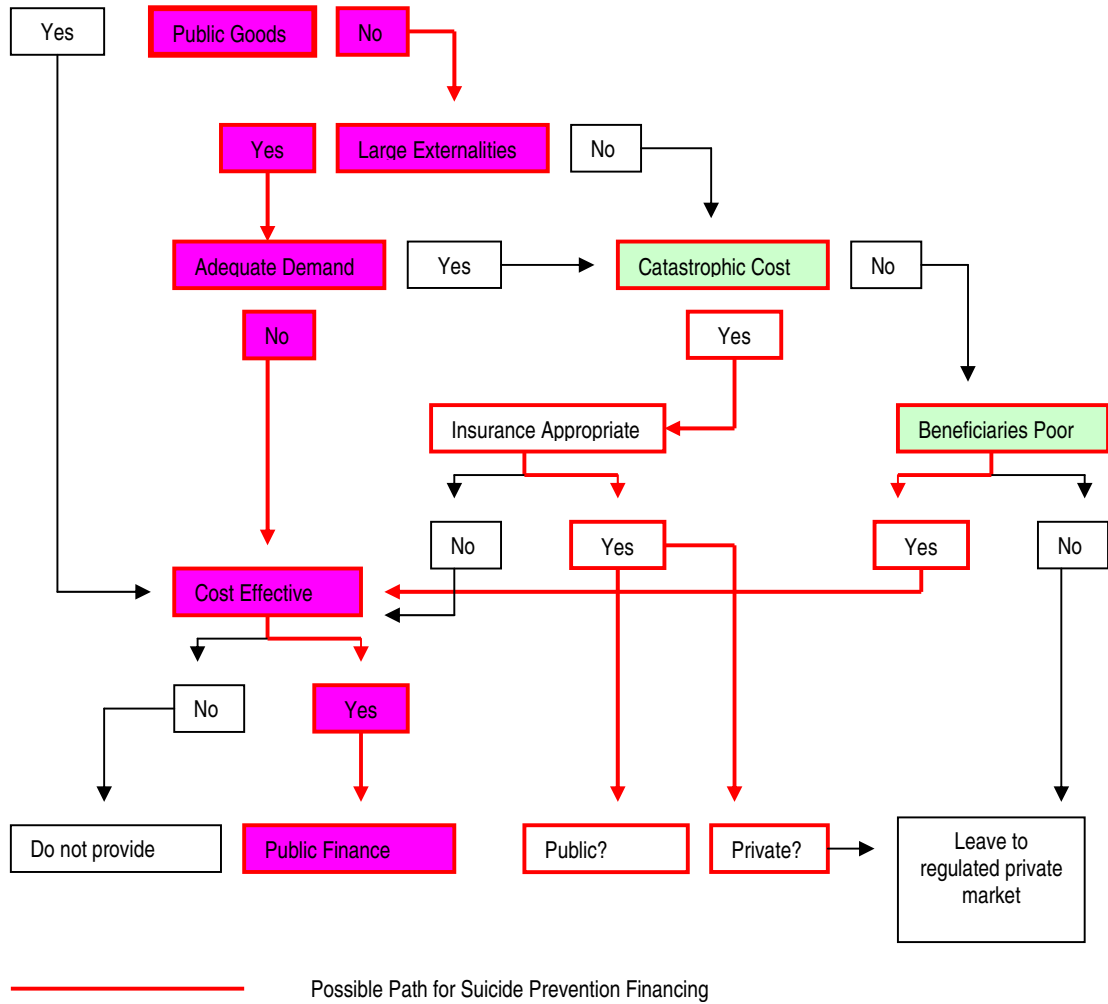
ANNEX 16: FLOW OF INFORMATION ON SUICIDE IN BALI
Source: own sources


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                        ┌──────────────────┐
                        │ People with Risk │
                        │     Factors      │
                        └──────────────────┘
               ┌────────────────┴────────────────────┐
        ┌──────────────┐                      ┌──────────────┐
        │ People with  │                      │Without mental│
        │mental Disorder│                     │   disorder   │
        └──────────────┘                      └──────────────┘
           ┌──────┴──────────┐                       │
   ┌────────────┐     ┌───────────────┐              │
   │ No suicide │     │Suicide ideation│             │
   │  ideation  │     └───────────────┘              │
   └────────────┘      ┌──────┴──────────┐           │
   ┌──────────┐  ┌──────────────────┐  ┌──────────────┐
   │ Seek help│  │Attempted Suicide │  │  Committed   │
   └──────────┘  └──────────────────┘  │   Suicide    │
                  ┌──────┴──────┐      └──────────────┘
          ┌──────────────┐ ┌──────────┐  ┌──────┴──────┐
          │Don't Seek Help│ │Seek Help │  │Police Report│  │Unreported│
          └──────────────┘ └──────────┘  └─────────────┘  └──────────┘
                            ┌──────────────┐
                            │Hospital Record*│
                            └──────────────┘
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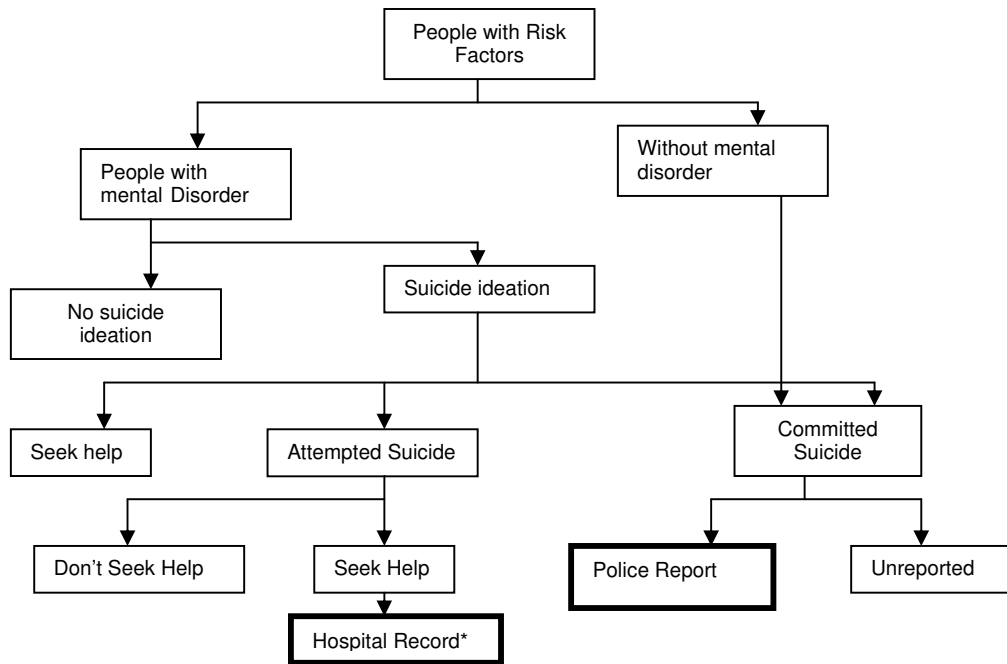
∗ Within the hospital recording and reporting system, suicide is not part of axis in diagnosis being formally reported, therefore in order to gather data on attempted suicide it requires to go back to original ward or outpatient department medical record.