INTRODUCTION

THE MEANING OF TRI HITA KARANA (THK)

THE APPLICATION OF THK IN IRRIGATION MANAGEMENT BY SUBAK ORGANIZATION

CONCEPT OF SUSTAINABLE IRRIGATED RICE CULTURE

RATIONALE FOR PRESERVING IRRIGATED RICE CULTURE

CLOSING REMARKS
INTRODUCTION

SUBAK:
# ALMOST A MILLENNIUM; CREATED ON HYDROLOGICAL BASIS;
MANAGING WATER FOR RICE PRODUCTION; RITUALS DOMINATE ITS DAILY
ACTIVITIES;(SUBAK= IRRIGATION NETWORK= IRRIGATORS’ ASSOCIATION=
A CLUSTER OF IRRIGATED PADDY FIELDS = IRRIGATED RICE CULTURE ).
# ITS DAILY ACTIVITY IS GUIDED BY TRI HITA KARANA (THK) WHICH STRESSES
THE IMPORTANCE OF MAINTAINING HARMONY IN THIS PLANET EARTH ).
# MAN IS PART OF NATURE WHICH IS A GIFT FROM GOD FOR HIS
SUSTENANCE; THUS, NATURE SHOULD BE PRESERVED TO SUPPORT THE
LIVELIHOOD FROM GENERATION TO GENERATION.
# THK HAS UNIVERSAL VALUES RELEVANT WITH MODERN CONCEPT OF
SUSTAINABLE AGRICULTURE.

OBJECTIVES:
★ DESCRIBE THE APPLICATION OF THK PRINCIPLE BY THE SUBAK
★ PROPOSE A CONCEPT OF SUSTAINABLE IRRIGATED RICE CULTURE
★ RAISE ARGUMENTS FOR PRESERVING IRRIGATED RICE CULTURE
**THE MEANING OF TRI HITA KARANA (THK)**

THK MEANS: “THREE CAUSES OF HAPPINESS / PROSPERITY / PEACEFULNESS”. CONSISTING OF THREE ELEMENTS NAMELY: PRAHYANGAN (SUPRA NATURAL REALM OR BELIEF IN GOD); PALEMAHAN (ENVIRONMENTAL REALM); AND PAWONGAN (SOCIAL REALM).

TO ACHIEVE HAPPINESS /PROSPERITY/PEACEFULNESS, MAN SHOULD LIVE IN HARMONY WITH GOD (CONSTANT WORSHIPPER TO GOD), WITH HIS NATURAL ENVIRONMENT AND WITH HIS OTHER MAN OR HIS SOCIAL ENVIRONMENT.

A: PRAHYANGAN, → SUBAK TEMPLES WITH SEVERAL KINDS OF RITUALS.
B: PALEMAHAN, → NATURAL ENVIRONMENT INCLUDING THE FLORA AND FAUNA
C: PAWONGAN, → IRRIGATORS’ ASSOCIATION PLUS ITS MEMBERS AND ITS OPERATIONAL RULES

NATURE IS A GIFT FROM GOD. THUS, IT MUST BE PRESEVED AND BE UTILIZED WISELY FOR THE BENEFIT OF ALL MANKIND; AND MAN IS OBLIGED TO MAKE OFFERINGS AS GRATITUDE FOR GOD’S BLESSING.
APPLICATION OF THK PRINCIPLE BALINESE RICE FARMERS

KEEPING HARMONY WITH GOD:
- Make offerings at several temples according to stages of paddy growth as adoration and gratitude to God for His blessing;
- Rituals play role in cementing solidarity and maintaining rural stability.

KEEPING HARMONY WITH OTHER MEMBERS OF THE SUBAK:
- Develop operational rules strictly imposed against violators;
- Decision is made through consensus;
- Rights of water share is proportional to the duties;
- Any member can monitor rule violation;
- Conflict resolution mechanism to keep group harmony;
- Mutual trust, mutual help and mutual benefits relationship (social capital);
- Creation of subak federation.

KEEPING HARMONY WITH NATURE:
- Symbolically through rituals to preserve nature and biodiversity (flora day and fauna day; pest control through rituals, cropping pattern and planting schedule arrangement);
- Irrigation structures were built best suited to local environment, using local materials and local wisdom; ensures fairness, transparency and easy to monitor (appropriate technology);

➔ Conform to Ostrom’s eight design principles: clearly defined boundaries, fair proportioning between rights and duties; collective action; accountable monitoring; graduated sanction; conflict resolution mechanism; recognition as formal organization; multilayered organization.

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FIGURE 1: CONCEPT OF SUSTAINABLE IRRIGATED RICE CULTURE

EXTERNAL FACTORS (POPULATION, GOVERNMENT POLICY, SOCIAL, CULTURAL, ECONOMIC, AND POLITICAL FACTORS, ETC.)

NOTE: A = WUA / IA (INSTITUTIONAL SUSTAINABILITY); B = IRRIGATION NETWORK (TECHNICAL SUSTAINABILITY); C = PADDY LAND ECOSYSTEM (ECOLOGICAL SUSTAINABILITY); D = FOOD / RICE PRODUCTION (ECONOMIC SUSTAINABILITY); E = RITUAL / SOCIO-CULTURAL VALUES (SOCIO-CULTURAL SUSTAINABILITY)
ARGUMENTS FOR PRESERVING IRRIGATED RICE CULTURE

- IRRIGATED RICE CULTURE HAS
  MULTI-FUNCTIONAL BENEFITS
  (ENVIRONMENTAL, ECOLOGICAL,
  SOCIO-CULTURAL, RURAL DEVELOPMENT,
  AGRO-TOURISM AND ECOTOURISM
  FUNCTIONS).
- IRRIGATED RICE CULTURE PLAYS A
  SIGNIFICANT ROLE IN SAFEGUARDING
  FOOD SECURITY.

LOCAL WISDOM AND RURAL
TRADITIONS ASSOCIATED WITH IRRIGATED
RICE CULTURE
- RICE FARMERS LACK OF TECHNICAL,
  MANAGERIAL, AND FINANCIAL CAPACITY,
  SO THEY NEED EXTERNAL SUPPORT.

THREATS TO SUSTAINABILITY OF IRRIGATED RICE CULTURE:
- DECLINING INTEREST OF RURAL YOUTH IN RICE FARMING ACTIVITIES
- DECLINING OF IRRIGATED PADDY LAND DUE TO CONVERSION FOR OTHER USES
- INCREASING CONFLICT IN THE USE OF WATER RESOURCES
- deforestation and pollution of irrigation water
Taking water availability into account for space and land use planning; restricting rice land conversion through legal framework with strict law enforcement.

Pro-farmers agricultural policy; agro-based rural development; improving rural infrastructure.

Clearly defined water rights; promoting good coordination among WUAs within a large system and inter-system coordination along river course; organizing dialog among stakeholders; promoting more efficient use of the available water.

Provision of support services, training and education for farmers; promoting income generating activities; external support for major repair through participatory approach; government recognition as legal entity.

Strict punishment to water polluters and illegal woodcutters; non issuance of permit for investment which is not feasible through environmental impact assessment; imposing “polluters pay principle”; strengthening community-based forestry; promoting LEISA and organic farming; inter-agency coordination.
THK SEEMS TO HAVE SIGNIFICANT CONTRIBUTION IN KEEPING IRRIGATED RICE CULTURE SUSTAINABLE

WATER CONFLICT AND DEFORESTATION WHICH ARE THREATENING THE SUSTAINABILITY OF IRRIGATED RICE CULTURE IMPLY THAT THE SPIRIT OF THK NEEDS REVITALIZATION. ITS IMPLEMENTATION SHOULD NOT ONLY SYMBOLICAL THROUGH RITUALS BUT MUST BE PUT INTO REAL AND CONCRETE ACTION (THK IN PHILOSOPHY TO THK IN ACTION)

SUSTAINABILITY OF IRRIGATED RICE CULTURE SHOULD ENCOMPASS THE SUSTAINABILITY OF THE FOLLOWINGS:

- Irrigators' Association (Institutional Sustainability)
- Irrigation Network (Technical Sustainability)
- Food / Rice Production (Economic Sustainability)
- Paddy Land Ecosystem (Ecological Sustainability)
- Social and Cultural Values Linked with Rice Cultivation (Socio-Cultural Sustainability)
- Local Natural Environment Especially Upstream Watershed (Environmental Sustainability).

RAPID CONVERSION OF IRRIGATED PADDY FIELDS IS ONE OF THE GREATEST THREATS TO SUSTAINABLE RICE CULTURE

THE MAIN AND MOST IMPORTANT REASON FOR KEEPING IRRIGATED RICE CULTURE SUSTAINABLE IS BECAUSE IT PRODUCES INTANGIBLE GOODS WITH INVALUABLE MULTI-FUNCTIONAL BENEFITS.

EFFECTIVE AND APPROPRIATE POLICY MEASURES ARE REQUIRED TO KEEP IRRIGATED RICE CULTURE SUSTAINABLE (MINIMIZING PADDY LAND CONVERSION; NARROWING RURAL-URBAN GAP; REDUCING WATER CONFLICT; STRENGTHENING IRRIGATORS' ASSOCIATION; PROTECTING UPSTREAM WATERSHED AND WATER QUALITY FROM FURTHER DEGRADATION).