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The Influence of Livelihood Assets to the Resilience of the Smallholder Households in Rural Flooded and Non Flooded Areas of Indonesia

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Background

- Agriculture are vulnerable from various natural phenomena such as climate change and natural disasters (flood).
- In critical condition, smallholders households have five livelihood assets to survive.
- The livelihood assets are used to increase their resilience level

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Statement of the Problems



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graph LR
    A[Indonesia is a tropical country] --> B[Drought in dry season]
    A --> C[Flood in rainy season]
  
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- In normal condition, farmers can harvest **three** times a year
- Normal of Agriculture production is four tons of rice per hectare
- In Flood contion, farmers only can harvest **one** time a year

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Ecological Crisis in Research Area → Flooded in Rainy Season






There is a problem in the watershed management (*daerah aliran sungai*) → there is severe forest degradation in the **upstream** region (Bandung) → water can not be retained optimally → it leads to a serious flood in the **downstream** region (Bekasi).

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Research Questions



How far is the use of livelihood assets by smallholder households in two communities, to survive?

How is the form of livelihood structure of smallholder households in two communities?

How good is the smallholder households' resilience in time of (eco)crisis, in two communities?

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Methodology



Location	Sukabakti Village, Sub-district of Tambelang, District of Bekasi, West Java
The Approaches	quantitative → questioner qualitative → depth interview
Unit of analysis	Household, all households are stratified into three different strata namely lower, middle, and upper stratum
Technique of samples	Simple random sampling
Technique of data analysis	Simple Statistic Analysis (SPSS 19)

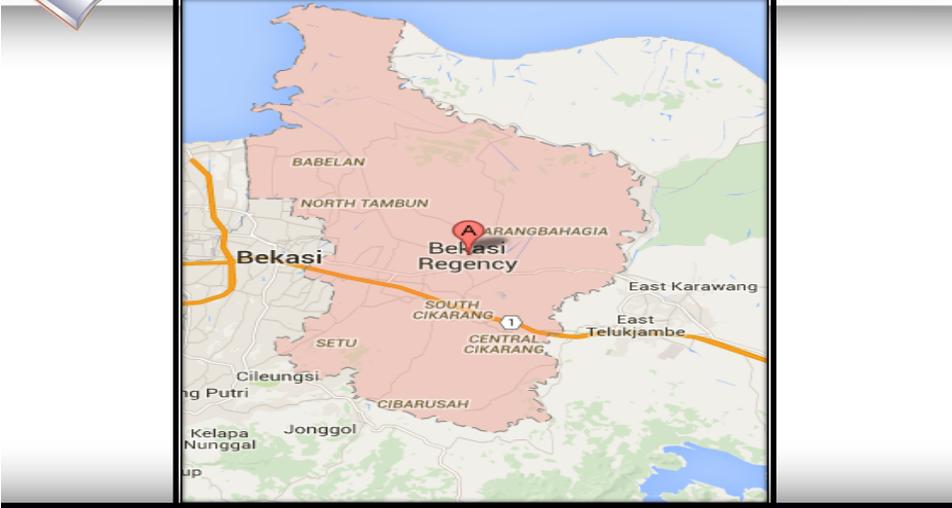
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Indonesia

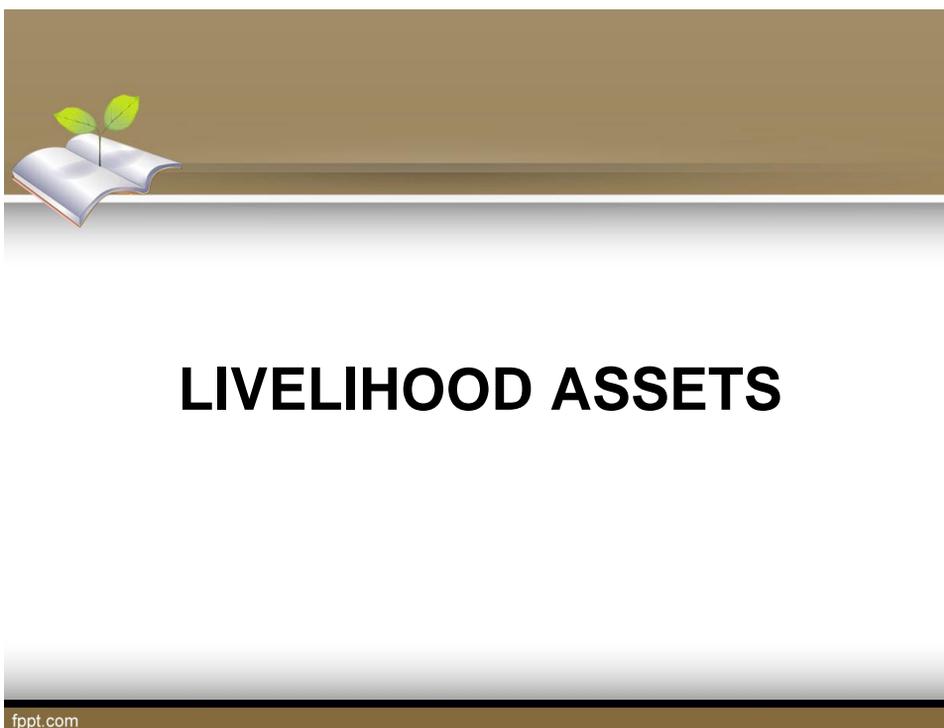
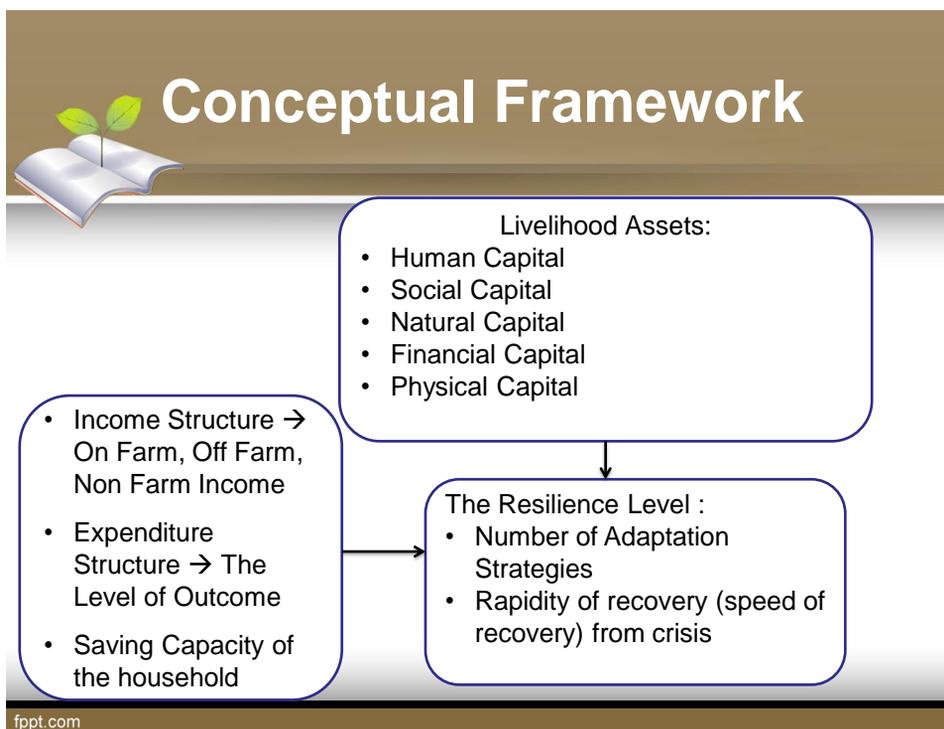


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Research Areas



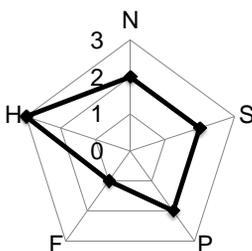
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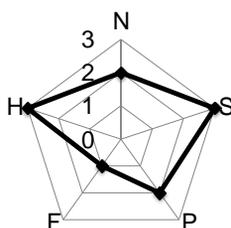
Smallholder Household's Livelihood Assets in Flooded Area



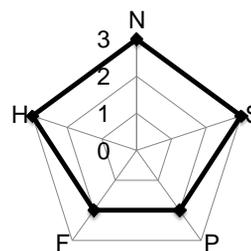
Household's Livelihood Assets of Lower Stratum



Household's Livelihood Assets of Middle Stratum



Household's Livelihood Assets of Upper Stratum



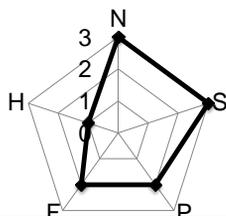
Human Capital are very high in three strata. Social capital is high in two strata, only. Physical capital and financial capital are in poor condition for all strata. The basis of survival is in human capital and social capital

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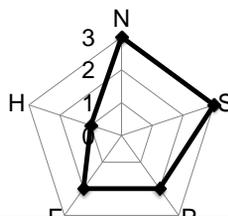
Smallholder Household's Livelihood Assets in Non Flooded Area



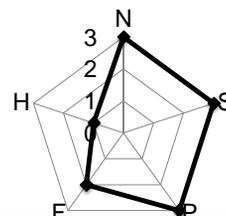
Household's Livelihood Assets of lower Stratum



Household's Livelihood Assets of Middle Stratum



Household's Livelihood Assets of Upper Stratum



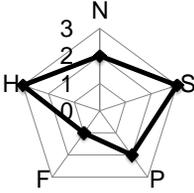
Human Capital are in very poor condition in three strata. Social capital and natural capital are highly available in three strata. Physical capital and financial capital are of very poor condition. The basis of survival is social capital and natural capital.

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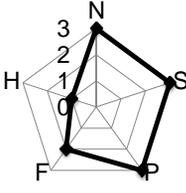
Overall Use of Livelihood Assets in Two Communities



Livelihood Assets in Flooded Area



Livelihood Assets in Non Flooded Area



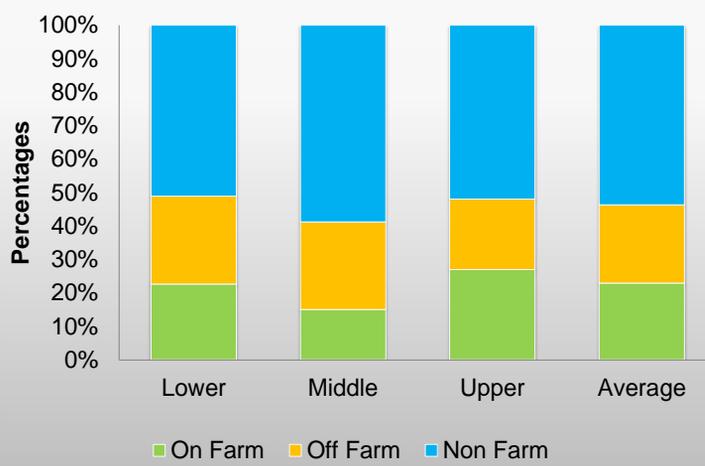
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INCOME STRUCTURE

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Smallholders Household's Income Structure in Flooded Area



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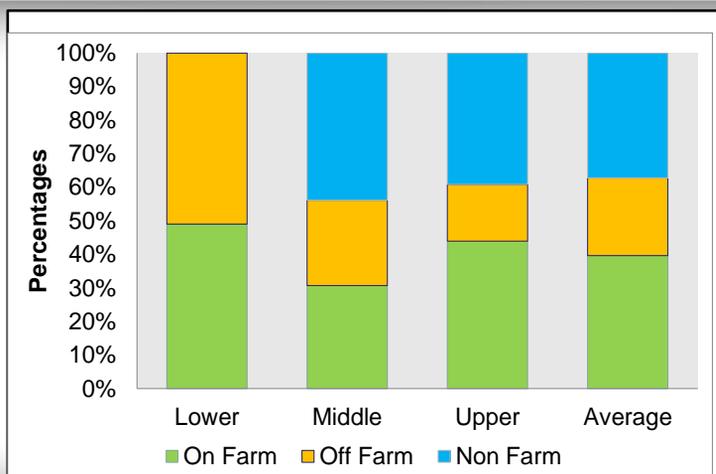
Interpretation



- For all strata → farm economy does no longer play important role to support livelihood of smallholder households in these areas.
- For all strata → Non farm economy is dominant (most important) source of income for survival

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Smallholders Household's Income Structure in Non Flooded Area



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Interpretation



- Farm economy is still playing more important role in the livelihood of smallholder households of non flooded areas.
- However, larger part of source of income of all strata of smallholder households is no longer from farm economy.

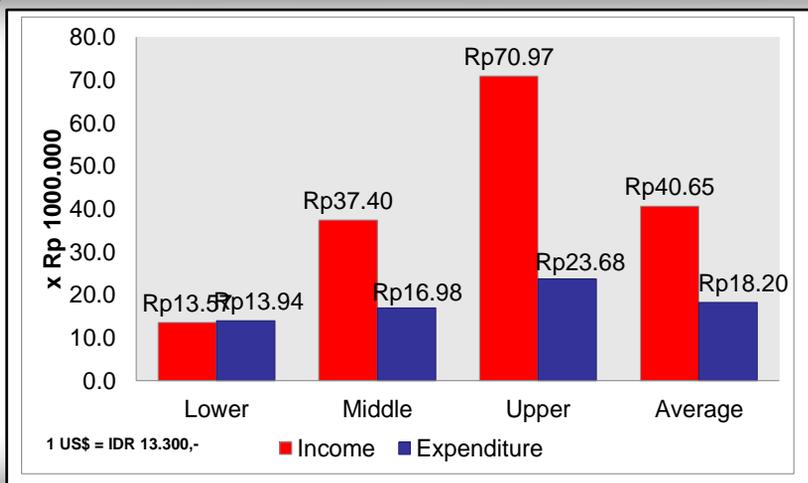
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INCOME AND EXPENDITURE STRUCTURE

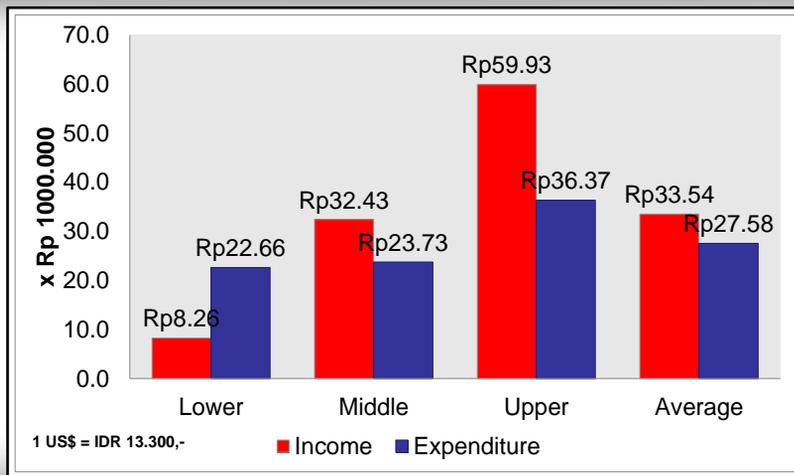
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The Comparison Between Income Structure And Expenditure Structure of Smallholders Household In Flooded Area, 2013 - 2014



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The Comparison Between Income Structure and Expenditure Structure of Smallholders Household In Non Flooded Area, 2013 - 2014



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Interpretation



- In the average → income level of smallholders households in the flooded areas is much better than what exists in flooded areas.
- The smallholders households of flooded areas show better livelihood resilience rather than that of in the non-flooded areas.
- The bigger role of non-farm economy in the community of flooded areas explains how they build up better livelihood resilience.

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LIVELIHOOD RESILIENCE

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On Farm and Non Farm Sector In Research Area



On Farm



Non Farm

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The Factors That Affect on The Level of Resilience



Smallholder Households in Flooded Area	Smallholder Households in Non Flooded Area
The skill of human resources in the household (H)	The labor allocation within the household (H)
The use of rural social networking (S)	The use of family laborer (<i>tenaga kerja keluarga</i>) (H)
Indebtedness (<i>berhutang</i>) (F)	Rural social capital (S)
The use of natural resources (N)	The use of natural resources (N)
The use of physical capital (P)	The use of physical capital (P)
The use of financial (income) capital (F)	The use of financial (income) capital (F)

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External and Internal Adaptation Strategies



Government Subsidies

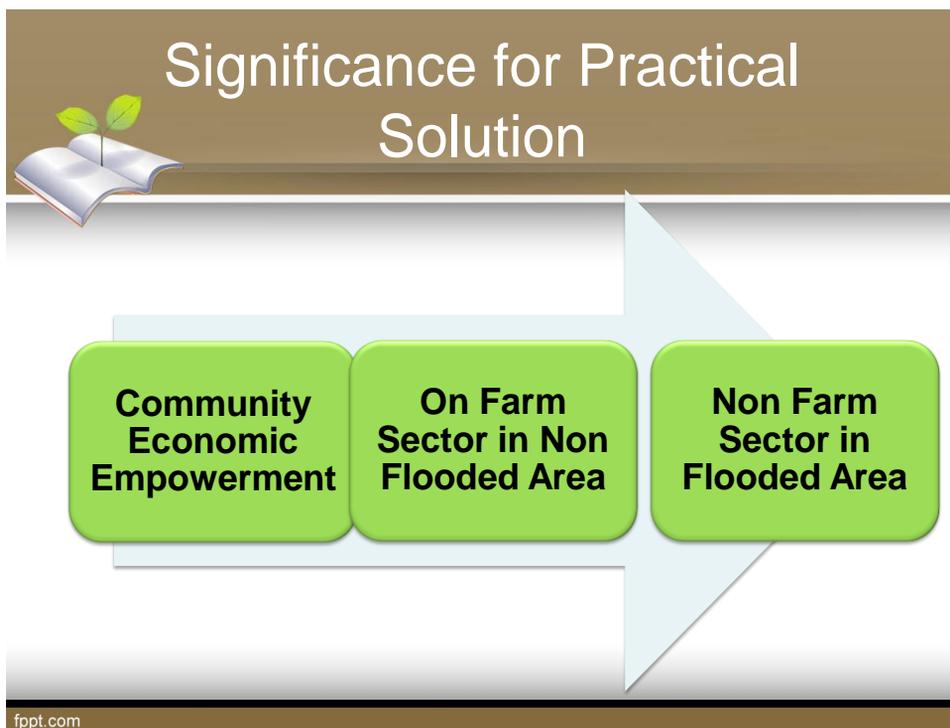
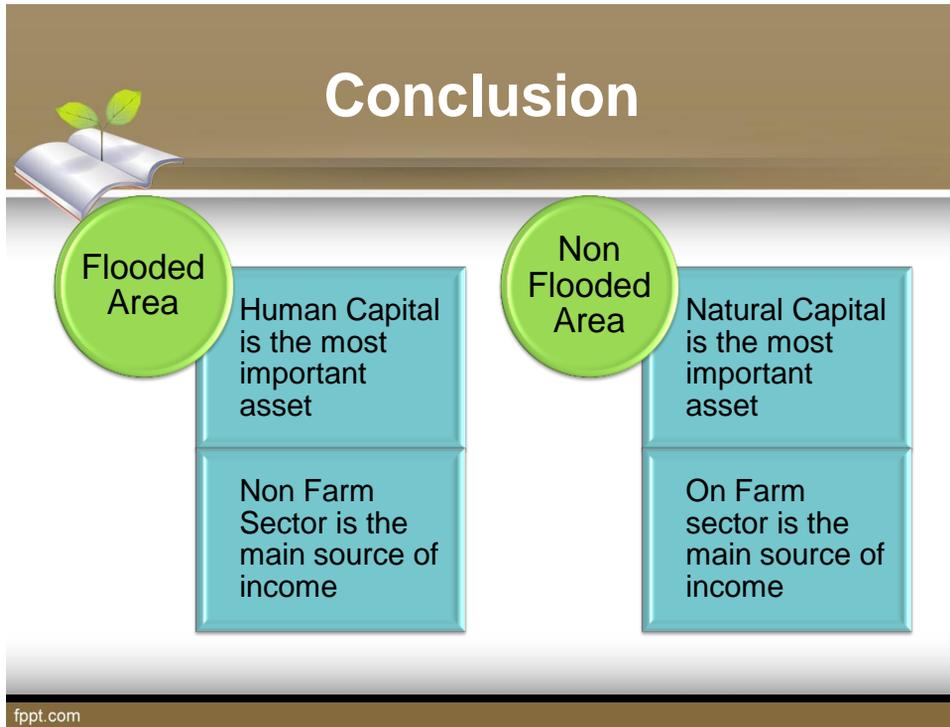


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