## **2.2 Analysis Methodology**

Analysis Methodology is a method or procedure that analyzes problems, applies data analysis system functionality and also interprets result of data analysis. As there are various methodology for software development and some of them are soft system methodology, hard system methodology and so on. I am going to use soft system methodology.

**Soft System Methodology (SSM)**

Soft System Methodology is an approach that can be used to solve general problem and manage changing in the organization. These methodology learns and appreciate the problem and gives soft analysis on the process that system should operate and the way system should do it. This helps in improving the processes when the time comes to making decision.

There are several stages that carry out the processes of Soft System Methodology. The six stages are shown below:

**Stage 1: Finding out**

It tries to understand the problem situation content and context as write as possible by using interviews, observations and workshops.

**Stage 2: Expressing the problem situation**

This stage includes the validation and communication of the problem situation. A different tools can be used for achieving the problem. But the main technique to achieve it is “Rich Picture”.

**Rich Pictures** are the unstructured pictures which communicates every ideas we think of the problem situation that we are analyzing.

The Rich Picture of the situation is shown below:

**Stage 3: Deriving Root Definitions:**

Root definition is the definition of the definition of the purpose that names a system. These are of short statements that explains the functions and aims of the system needed for its development.

For producing root definitions two steps are included:

1. Input-Output transformation diagrams.

It separates the different purposes of the system and reflects many perspectives.

1. CATWOE framework.

The CATWOE is a checklist for discovering solutions to the problems. It stands for **C**ustomer, **A**ctors, **T**ransformation, **W**orldview, **O**wner and **E**nvironmental. CATWOE Framework is used for producing a root definition for each transformation.

**Stage 4: Deriving Conceptual Models:**

A conceptual model can be defined as a method of analyzing activities that helps in knowing what the actors are needed to perform for the achievement of the transformation. Different activities are listed and related graphically for designing a conceptual model.

**Stage 5: Comparing Conceptual Models with the Real World:**

In this stages Conceptual model is compared with real world as not all the things are perfect this stage provides a feedback on changes that are needed to be made to existing system.

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**Stage 6: Analyzing Feasible and Derivable change**

This stage follows the activities to represent the conceptual diagram and rich picture to the stakeholder of the project and some other users who can give helping hard in analyzing the system model with the diagrams shown above.