

Issues with Development Projects in Nepal: A Case Study of the Development Projects in Nepal and its Issues Using the Agent Based Approach (ABA)

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ABSTRACT: In the past few years in Nepal, even though many development projects have been initiated; they have not fared as per the expectations. There are immense sets of challenges towards initiating and completing development projects. In reality, it is also not unusual for the Nepal government to initiate development projects without proper planning and accounting for the resources that it would require. In addition, even those projects which have been initiated with proper planning have faced tremendous challenges, and have been subjected to major delays. For the purpose of this report, we are looking at only those projects which are classified as the “National Pride Projects” in Nepal. The National Pride Projects are mostly infrastructure projects of the government of Nepal, based upon the proposal of the National Planning Commission, which have been initiated with the ambition of improving the social, economic, cultural and environmental aspects of the general public ¹. Most of these projects have not been able to meet their targeted completion date due to many factors.

This paper discusses the issues that are present in these development projects using the Distinction-Systems-Relationships-Perspectives (DSRP) rule. With this, we try to understand the entire ecosystem under which these projects are implemented. Using the Agent-Based Analysis (ABA) approach which utilizes the Complex Adaptive System (CAS) perspective as a frame ², we further delve deeper into understanding the system based upon the interactions made between different agents to make recommendations for improvements. This report looks at these systems, the role that different agents play in these systems (whether that is the government, the judiciary, the private sector or the community), and the relationship and interactions they have with each other to make recommendations on what could be done to improve the efficiency of the implementation of the development projects..

¹ Sharma, R., *NPC recommends formulation of Act to define nat'l pride projects*, 2017

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Keywords: Systems Thinking | DSRP | ABA | CAS | POSIWID | Development Projects | National Pride Projects

Cite this paper: Ishan Bista (2022) Issues with Development Projects in Nepal: A Case Study of the Development Projects in Nepal and its Issues Using the Agent Based Approach (ABA) *Journal of Systems Thinking*. (22) 5.

Introduction

AS NEPAL AIMS TO ACHIEVE high economic growth as a part of its ambition of “Happy Nepali, Prosperous Nepal”, this ambition is not aided by its infrastructure. While infrastructure development has been deemed key to propel growth ³, there are big gaps with

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regards to the type of infrastructures required. In addition to this, infrastructure has been deemed essential because it contributes to the growth by improving competitiveness, and also by facilitating international and domestic trade (majorly by reducing costs) ⁴.
 However, the work related to such development projects have been sub-par. Even with the government classifying some of these projects as the “National Pride Projects” to give it high priority, they have not been able to maneuver these projects well. During the first six months of the fiscal year 2020/21, the Nepal government was able to spend only 10 percent of the total allocated budget with regards to the National Pride Projects ⁵. Most of these projects have been going on for more than a decade. The Babai Irrigation Project, which is one such project, was announced in 1987 AD but still hasn’t been completed ⁶. Another National Pride Project – the West-Seti Hydropower Project – which was announced in 2000 AD hasn’t been able to take off ⁷. With all of this, Nepal has established a developmental culture where such failures have been normalized.

Methods

AS THERE ARE MULTIPLE AGENTS who play a crucial role in the implementation of these development projects, it is very important to look at how these agents interact with each other and what relationships they have with each other to be able to understand the system as a whole. In addition, we must be aware that the actions of one of these agents may greatly affect other agents, which may also influence their actions to a great extent. Due to all of this, we can say that this system is a CAS. Because of all these reasons, an Agent-Based Approach would be a perfect fit to understand this system and make recommendations to solve the existing problems. According to Cabrera Research Lab, ABA is “an approach to systems understanding, problem solving, and analysis-synthesis of various kinds (e.g., process, policy, systems, etc.) that utilizes a CAS perspective as a frame” ⁸. This method was developed by Drs. Derek and Laura Cabrera.

Why an Agent Based Approach (ABA)?

ACCORDING TO THE PAPER written by Yeni Oktavia Mulyono, Unur Sukhbaatar, and Derek Cabrera “An ABA Approach is a step-wise approach to thinking about CAS with the end goal of coming to some recommendations that will help to change the system from its

current undesirable state to some future (more desirable) state”⁹.
 ABA approach is based on the underlying structure of CAS, which
 tells us that different independent agents with their own local simple
 rules bring out collective dynamics resulting in emergent behaviors
 or properties of a system¹⁰. As there were multiple agents such as
 the government, the judiciary, the private sector and the development
 partners who had their own simple rules but interacted with each
 other; the ABA approach was a perfect fit to analyze this system. The
 dynamics these agents brought out had a mismatch due to which
 there were many issues with the projects. With the ABA approach,
 understanding this system would be possible due to which we
 could make recommendations on what could be done to resolve
 this mismatch.

On the other hand, the Agent-Based Modeling (ABM) approach,
 even though it has great benefits, has some characteristics due to
 which it was not deemed a perfect fit for the analysis of the development
 projects in Nepal. The main benefit of the ABM approach is that it
 can be specific and predictive about CAS¹¹. However, there are some
 drawbacks to using ABMs. ABMs require specific parameters with
 detailed purposes and do not capture “soft factors” associated with
 human behaviors¹². In addition, ABMs may also not be practical
 because it analyzes the system, not at the aggregate level, but at the
 level of its constituent agents and rules¹³. Because of this, getting
 an aggregate level analysis would require calculations of all related
 agents which may not be practical and may also be time consuming
 due to various reasons such as the lack of data, inaccurate variables,
 lack of coding competencies, and shoehorning complexities. Therefore,
 this approach was deemed not applicable to the analysis of the
 development projects in Nepal. In general, these are also the reasons
 why the ABM approach fails to resolve many problems related to
 CASs.

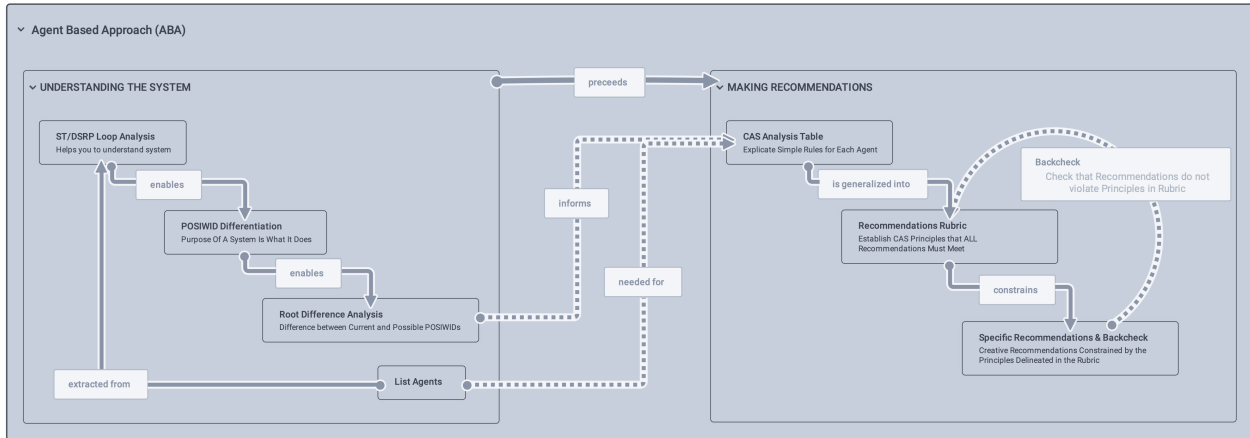
Steps to an Agent Based Approach (ABA)

THE STEPS TO AN ABA APPROACH includes two parts – understanding
 the system and making recommendations. While understanding the
 system, the DSRP method is used to establish distinctions, systems,
 relationships, and perspectives. This helps us understand the system
 on the basis of different agents, the relationships they have between
 them, their interactions with each other, and the perspectives they
 have about each other. After the DSRP method, POSIWID helps us
 see what the system is currently doing. This helps us use the Root
 Difference Analysis to see the difference between the system’s current

POSIWID versus the system's future or desired POSIWID.

After understanding the system, the next part is making recommendations. In this, the CAS analysis helps us see if agents are following the simple rules as per the CAS principles. As the CAS Analysis helps us see the agent's simple rules, it helps us develop the recommendation rubrics. The recommendation rubrics are like a litmus test through which the recommendations we make should pass. By conducting all of these steps, one can complete an ABA analysis.

Figure 1: Steps to an Agent-Based Approach (ABA); Source: Mulyono, Sukhbaatar, and Cabrera, 2020



Step 1: DSRP Analysis of the System

THE DSRP METHOD IS THE FIRST and foremost step of the ABA approach which stands for Distinctions, Systems, Relationships and Perspectives¹⁴. In this step, the aim is to understand the system. This is crucial as one cannot make recommendations before understanding the system. In this step, distinctions are made between different agents which help classify them into systems. After this, we identify and establish the type of relationship each agent has with others. Lastly, we add perspectives on how these agents view other agents or whatever is going on in the system. In this way, we produce our mental models which we then test against reality to help make it a better fit as per the reality¹⁵.

Step 2: POSIWID and CAS Analysis

THE NEXT STEP AFTER DSRP ANALYSIS of the system is POSIWID and CAS Analysis. POSIWID is a popular systems thinking heuristic

developed by Systems and Management scientist Stafford Beer. It stands for “The purpose of a system is what it does” and means that we should see the POSIWID of a system as it is ¹⁶. This means that when we analyze a system we should see the system on the basis of what it is doing, and not on the basis of what it is supposed to do. Beer stated that “The purpose of a system is what it does. There is after all, no point in claiming that the purpose of a system is to do what it constantly fails to do”. Nevertheless, for the purpose of doing an analysis, we can also have a future or desired POSIWID. When we compare these two POSIWIDs, we can be aware of what we need to do or what targets we need to set.

The CAS analysis helps us identify the simple rules that each agent is following to see if they are in alignment with the CAS principles or not.

Step 3: Rubric and Recommendations

AFTER THE POSIWID AND CAS ANALYSIS, the next step is the recommendation rubrics. Recommendation rubrics are those rubrics through which all the recommendations must pass ¹⁷. This is like a litmus test which helps us eliminate those recommendations which violate the principles of the rubrics. This helps to keep the recommendations structured to help meet the future or desired POSIWID.

Results

THE DSRP METHOD WAS USED to create distinctions, systems, relationships and perspectives amongst various agents in the system in which development projects were being implemented. Through the POSIWID analysis, the current and future POSIWID were identified. Then, the CAS analysis helped identify the simple rules that all the agents were following, which further helped develop the recommendation rubrics to make recommendations.

DSRP Analysis of the System

THE SYSTEMS THINKING MAP used various distinctions, systems, relationships and perspectives to map out the system in which development projects were being implemented. Initially, the dropping rule was decided upon to bring some focus and alignment to the

map. Without the dropping rule, this system would have been too complicated to map. As a part of the dropping rule, only the national pride projects were selected as the development projects. To map the system, various research papers and articles were referred to, along with conducting a few interviews.

Figure 2: Complete DSRP Map.

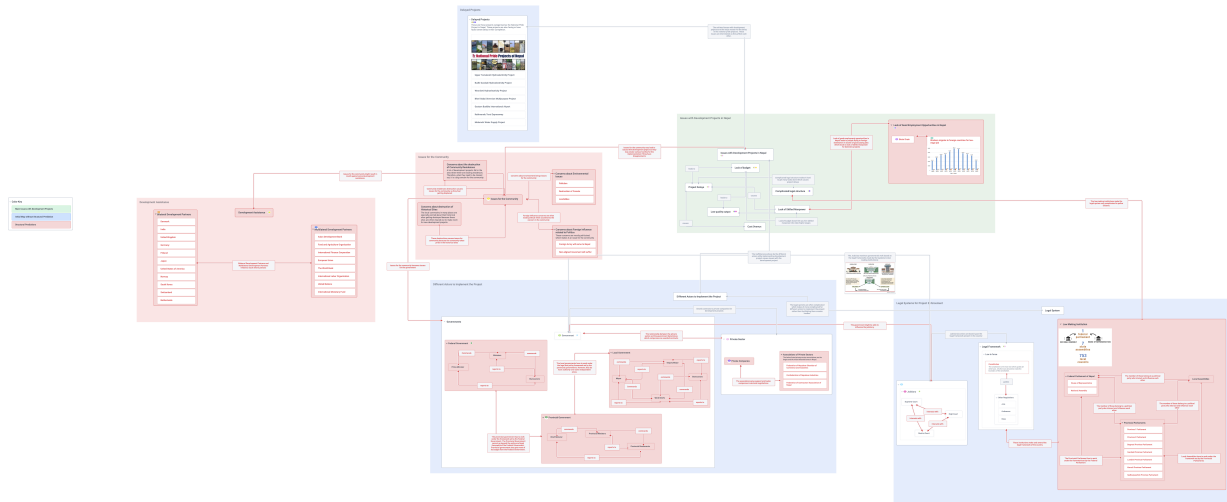


Figure 2 shows the whole of the DSRP map. The area in the green is the main part of the map. It includes the issues with the development projects which is the focus of the map. The areas in blue are parts of the map before conducting the structural predictions and the ST loop feedback. The areas in red are parts of the map after conducting the structural predictions and the ST loop feedback. Also, as you can see in Figure 3, there are some parts of the map in blue and green areas which are in red. This is because these parts were added to an already existing map after the structural prediction and the ST loop feedback.

In total, there are 56 relationships, 21 part-whole systems and 24 perspectives. For the degree of compression, the map includes 6 areas with various interconnected parts. In addition to this, 38 structural predictions led to the new information and 7 ST loop feedback loops helped navigate the map.

The initial map began with the information from the National Planning Commission of Nepal and some newspaper articles that covered the issues with development projects in Nepal. The article entitled "Timeline: How it took 23 years for Nepal to take Melamchi water to Kathmandu" was the starting point of identifying the national pride projects which were facing major delays. After this, by using the information from the National Planning Commission of

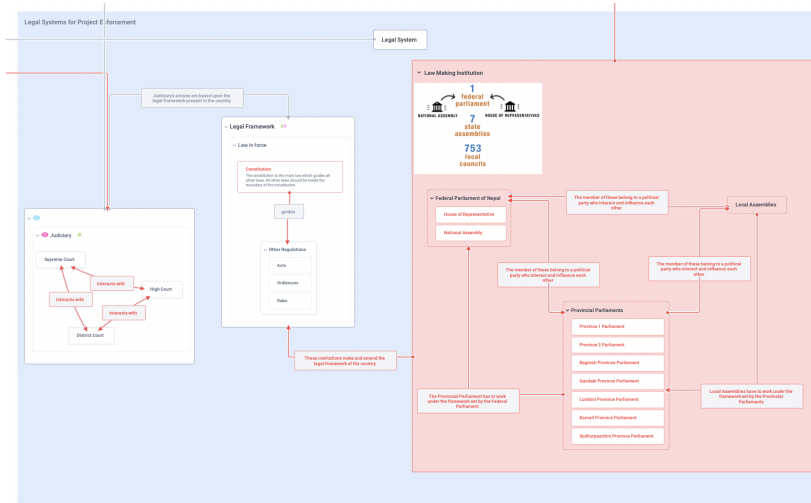


Figure 3: DSRP map showing legal systems for project enforcement and issues with development projects in Nepal.

Nepal, those national pride projects that were facing major delays were identified and enlisted as a part of the map¹⁸. The initial map consisted of four areas as seen in Figure 2 which included - delayed projects, different actors to implement the project and legal systems for project implementation in the blue, and issues with development projects in Nepal in green. In these areas, major agents were identified such as the government, the private sector, the judiciary and the legal framework. Using the DSRP method, we mapped the system of these agents, and the relationship and perspectives they had with regards to each other. Furthermore, the legal framework was added into the initial map because they play a big role in expediting the development projects. As mentioned in the article 'Legal Barrier to Infra Development' - "It has been often observed around the world that the pace of infrastructure and the legal framework of a country share a very close relationship"¹⁹. The green area of the map, on the other hand, is the main part of the map as it includes the issues with development projects. Later in this area, structural predictions were used to add a part-whole part-party "Lack of good employment opportunities in Nepal".

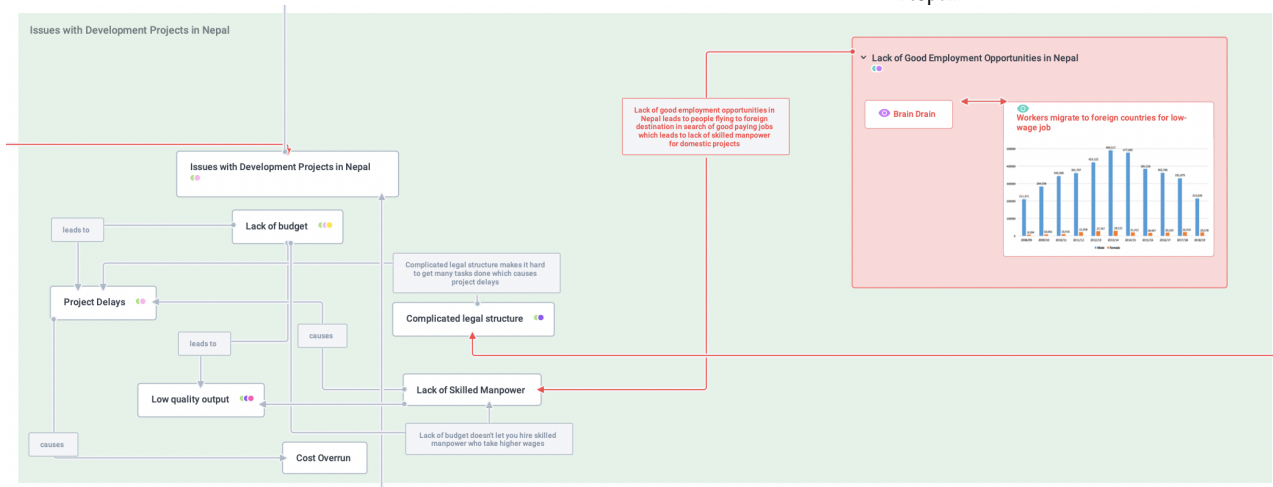
The structural predictions were used to check the mental model against reality. By using the structural predictions, various other agents who played a role in the implementation of the development projects were identified and added. Using the DSRP method, the relationship between the existing agents and newly identified agents was also identified. In addition, the perspectives they had towards each other were also identified and added to the map. As shown in Figure 3, the law-making institutions were added after the structural predictions along with the legal framework and the judiciary. The

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law-making institution was a part-whole system which had 5 RDs.

Figure 4: DSRP map showing legal systems for project enforcement and issues with development projects in Nepal.



The other structural predictions were made in the area of ‘Different Actors to Implement the Project’ as shown in the picture above. Through the ST loop feedback, it was brought into light that just having governments and the private sector as agents were not enough. Since both the governments and the private sector had multiple layers to it, it was necessary to highlight all of this. This led to the formation of 4 new part-whole systems and 20 new RDs.

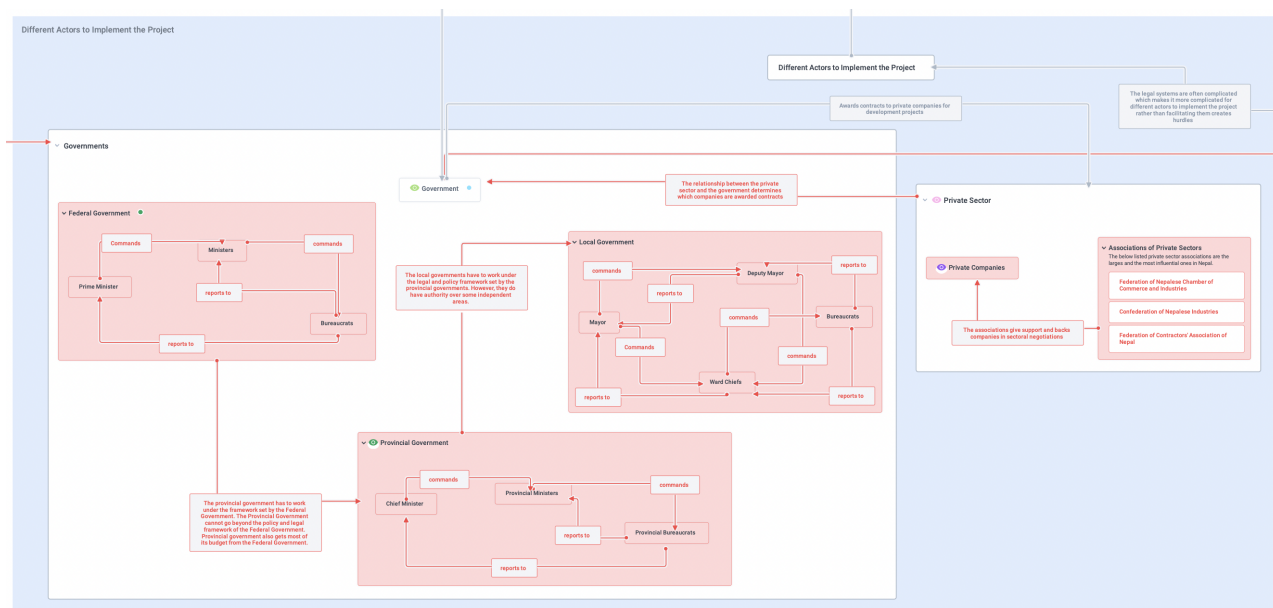


Figure 5: DSRP Map showing different actors to implement the project.

Through the structural predictions, two other areas ‘Issues for the

Community' and 'Development Assistance' were also added. These were noted as an important part of the system in which development projects were being implemented and therefore, were included in the map. Through this structural prediction, 6 part-whole systems and 8 RDs were added. The development assistance area includes multilateral and bilateral development partners who are a major funder for the development projects. The community, on the other hand, is at the core of this system because they are the main beneficiaries of these development projects.

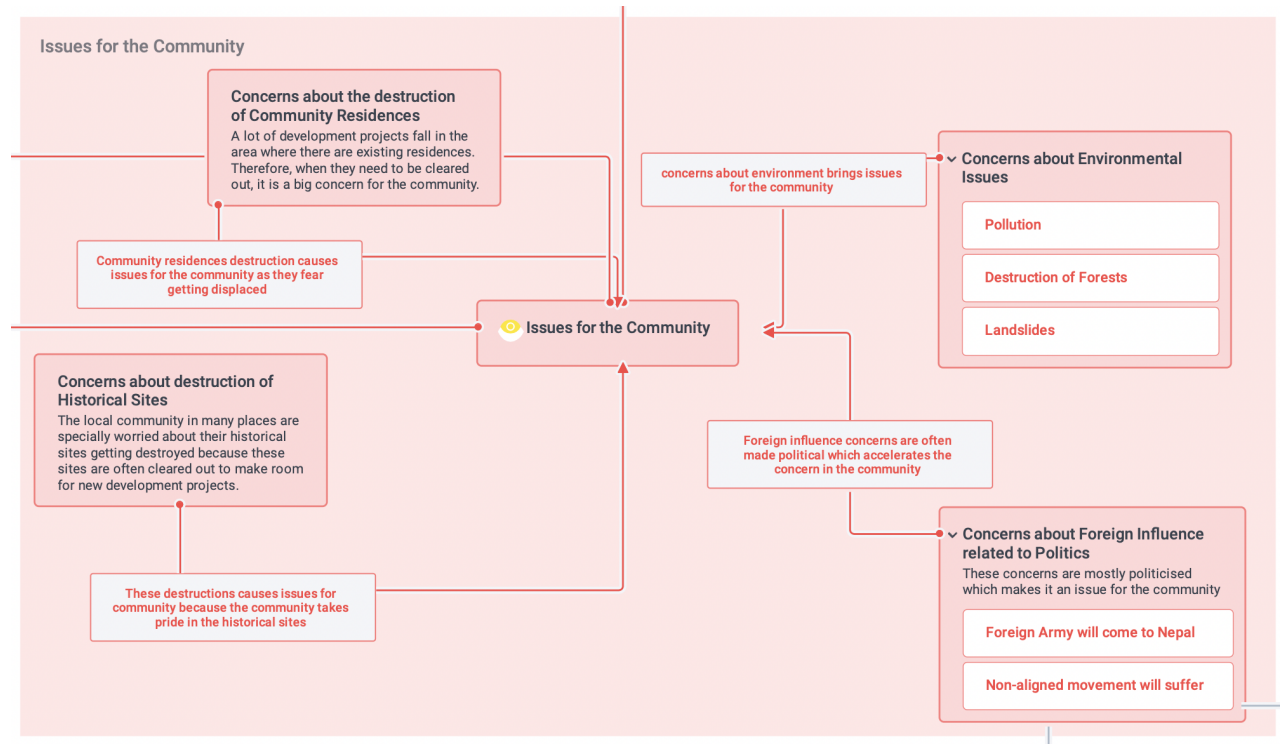


Figure 6: DSRP Map showing issues for the community and development assistance.

POSIWID Analysis

THE POSIWID ANALYSIS TABLE (Table 1) shown below includes the problem statements, current POSIWIDs, future POSIWIDs and root differences. The problem statements are based upon the main issues extracted from the DSRP map – which includes agents like governments, private sectors, community, and the legal system. For the problem statement, we have identified its current POSIWID which is what the system is doing in the present. Along with this, we have also identified the future POSIWID which is what the system should be doing or its desired future goal. After this, we have used

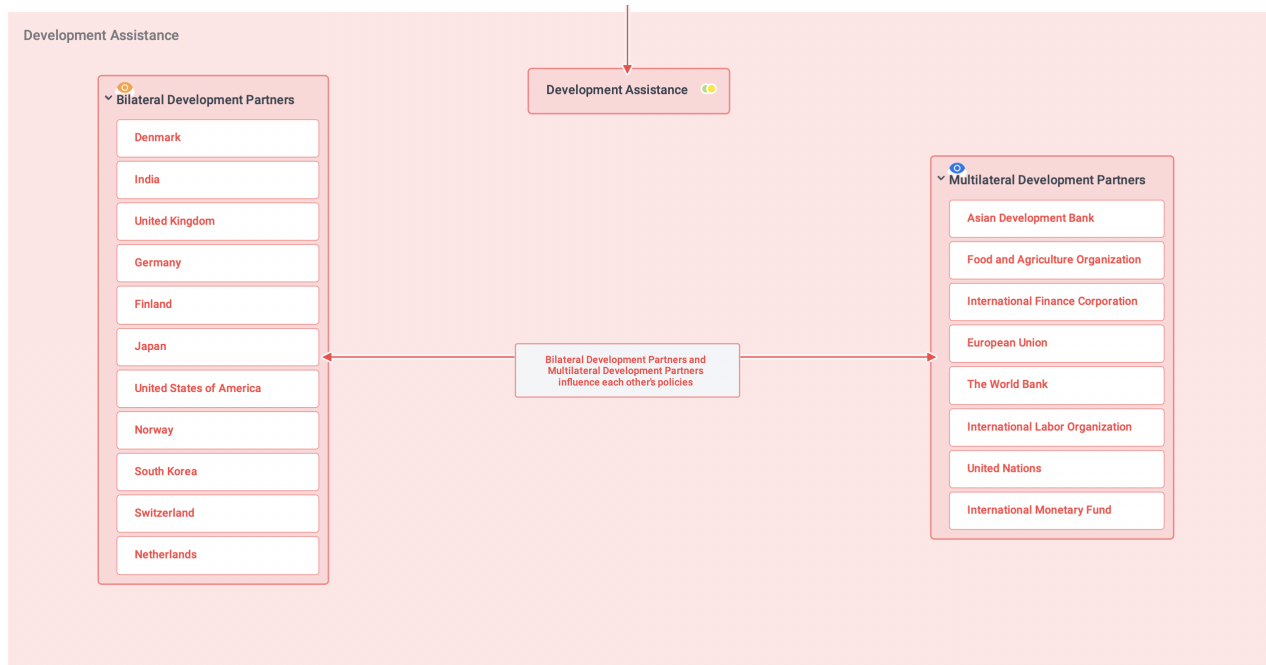


Figure 7: DSRP Map showing issues for the community and development assistance.

the root difference to look at the differences between the current POSIWIDs and the future POSIWIDs.

CAS Analysis

THE CAS ANALYSIS TABLE (Table 2) given below gives the list of salient agents, the current simple rules that they follow, and the current system-level behavior that arises. These are derived with the help of the DSRP map.

Rubric and Recommendations

THE SECTION BELOW gives a set of recommendation rubrics and specific recommendations that have been made because of what was learnt from the DSRP map and the CAS analysis.

Recommendation Rubric

No specific recommendation should violate these rules:

1. Recommendations should focus on systemic, institutional and procedural change.

Problem Statement	Current POSIWID	Future POSIWID	Root Difference
Informal ties between the government and the private sector are degrading mechanisms of awarding contracts to the deserving.	The existing implementation of development projects is exceptionally good at forming an informal relationship between the government and the private sector which brings in issues with the implementation of the development projects.	The existing implementation of development projects is exceptionally good at forming a formal relationship between the government and the private sector to better the public-private mechanisms for better implementation of the projects.	At its core, POSIWID difference is: 1. People focused vs. System focused 2. Cartelism vs. Free competition 3. Informal negotiations vs. Fair and formal procedures 4. Success of the firms vs. Success of the project and the system
There is less accountability as the government does not address community concerns.	The Government of Nepal is extremely good at being apathetic and indifferent towards community concerns which brings in disturbances in the implementation of the development projects.	The Government of Nepal is exceptionally good at being empathetic and understanding about community concerns to manage conflicts well so that it does not cause disturbances with the implementation of the development projects.	At its core, POSIWID difference is: 1. Self-Interest focused vs. People focused 2. Government goals vs. Community goals 3. Haphazard development vs. Balanced development 4. Accountability to party funders vs. Accountability to the people.
The complicated legal system creates obstacles for performance as per the requirements.	The legal system of Nepal is very good at creating hurdles and obstacles to make it difficult to implement the development project goals.	The legal system of Nepal is very good at facilitating the implementation of the development project goals.	At its core, POSIWID difference is: 1. Policing vs. Facilitating 2. Laws that contradict each other vs. Laws that complement each other 3. Main emphasis on getting the requirements fulfilled vs. Main emphasis on the goals and the targets
The government is not able to manage resources or create the environment for the smooth functioning of the projects.	The Government of Nepal is extremely good at planning for the projects without accounting for its requirements which causes issues with the implementation of the development projects.	The Government of Nepal is extremely good at planning all the required resources for the development projects which helps to implement it better.	At its core, POSIWID difference is: 1. Aspirations vs. Reality 2. Planning without proper estimations vs. Planning with proper estimations 3. Opinion-based planning vs. Strategic planning 4. Projects to please the masses vs. Projects to actually address the needs

Table 1: POSIWID Analysis

List of Salient Agents	Current Simple Rules	Current System Level Behavior
The Government of Nepal: • The federal government • The provincial governments • The local level governments	• Give projects to those in the private sector who are closer to them. • Focus on selling aspirations rather than on ground-level realities to plan for projects.	• Projects are given based upon connections, therefore, there is no fair competition. • Creates loopholes for the functioning of a system. • Mismatch which delays development works.
Institutions related to forming legislations: • The House of Representatives • The National Assembly • The provincial assemblies • The local level assemblies	Creates stringent legal frameworks as per their interests to prevent fraudulent activities.	Creates hassle and takes more time to fulfill the requirements which creates delays in project initiation and completion.
The Courts of Nepal: • The Supreme Court • The high courts • The district courts	Overturn any decisions conflicting with laws.	Government decisions to fast-track projects are often overturned because of no legal base.
The Community: • The people affected by the development projects • The people living around the area of the development projects • The general public	Protest and create obstruction if projects have concerns related to destruction of community residences, destruction of historical sites, foreign influence, and environmental issues.	Hindrances in the project implementation.
The Private Sector: • Private sector companies involved in the development projects • Private sector associations	Lobby for their benefits • Lobby to gain projects to increase their profits. • Lobby to get around penalization if projects do not meet the targets.	• Unfinished projects which do not meet their goals. • Low quality output which is not sustainable.

Table 2: CAS Analysis

2. Any recommendations should not exclude any stakeholder's perspectives.
3. Recommendations should offer management solutions and should not be biased towards any stakeholder.
4. It is assumed that all recommendations combined will bring the desired outcomes, and there is no one single solution.
5. Any recommendations could use further modification with time.

Specific Recommendations

Recommendation 1: The community residing near the area of the development projects or being affected by the development projects should be made part of the planning process.

Recommendation 2: Laws should be made and amended to facilitate development projects by also taking into account global best practices.

Recommendation 3: The selection procedure and selection of private companies to work for the development projects should be made transparent.

Recommendation 4: Project planning should follow an evidence-based approach and should take global best practices into account.

Discussion

THE DISCUSSION SECTION PROVIDES an analysis of the DSRP map along with further elaboration on POSIWID Analysis, CAS Analysis, and Rubrics and Recommendations. It provides a step-by-step explanation of how we came to the recommendations that we have made, and elaborates on the technicalities of the subject.

DSRP Analysis of the System

AFTER USING THE DSRP METHOD to map the entire system of the development projects in Nepal, we came to a conclusion that there were more complexities in this system as multiple agents were a part of this. This is also one of the major takeaways from the map. The initial map consisted of four areas as seen in figure 2 which included - delayed projects, different actors to implement the project and legal systems for project implementation in the blue, and issues with development projects in Nepal in green. This was before the

structural predictions and the ST loop feedback. These areas were identified as per the literature reviews and articles consulted – as they were the most referred to when talking about development projects in Nepal. “The issues for the development projects” area is the main part of the map, and therefore is highlighted in green. In this part, we have noted the main issues with development projects in Nepal – which include lack of budget, project delays, low quality outputs, cost overrun, lack of skilled manpower, and complicated legal structure. By using the DSRP method, we were able to identify and establish a relationship between these issues and the different agents who were there to implement the projects. Agents such as the government and the private sector showed inefficiencies due to which it brought about the issues with the development projects. Besides this, the legal systems which includes the judiciary and the legal framework were also highlighted as important. This is because as the judiciary maintains a check-and-balance to all the work being done on the basis of the legal frameworks; the legal frameworks were often complicating the procedural requirements of implementing the development projects.

Another major takeaway from mapping this system was that it was not just enough to map these systems at this level. This takeaway was observed after conducting structural predictions and ST loop feedback. For an example – the federal government, the provincial governments and the local governments were added in the part-whole system of governments, and private companies and associations of private sectors were added in the part-whole system of private sectors. These parts were added inside the already existing areas because they had a major role to play in the implementation of the development projects. For an example – the federal government was the one who allocated and planned for the projects whereas the provincial and local governments were often the ones who had to do major portions of the work. Similarly, in the case of the private sector, the private companies were the ones who got involved to implement the development projects, and the associations of the private sector were the ones to lobby for the interest of the entire private sector. After mapping all this using the DSRP method and as the government offers contracts to private companies to implement the projects, we figured the type of relationship that these companies had with the government was an integral part of this system. Most of the time, contracts were being awarded based upon the proximity one had with government officials. Companies were also able to escape penalization for their failures if they had good relationships with government officials.

Similarly, after the structural predictions and the ST loop feedback,

the law-making institutions were added to the legal systems for the project enforcement area. As complicated legal structure was identified as one of the major barriers to smooth implementation of development projects in Nepal, the law-making institutions such as the federal parliament, the provincial parliaments and the local assemblies were added to the map. With this, we came to know that the law-making institutions were making the legal systems very complicated to police for preventing fraudulent activities. However, this was going against the aim of implementing development projects smoothly as it made the implementation more complicated. There were also internal dynamics that played out amongst the agents who were part of the law-making institutions, which also dictated the legal framework. For an example – the provincial parliaments couldn't make any laws that clashed with the federal parliament's legal structure, and the local assemblies couldn't make any laws that clashed with the provincial parliament's structure. In addition, through the structural predictions and the ST loop feedback, we were also able to identify the lack of good employment opportunities as one of the major reasons for the issues with development projects, majorly for the lack of skilled manpower. Through the relationship between them, we came to a conclusion that the lack of good employment opportunities in Nepal had been leading to people flying to foreign destinations in search of good paying jobs which led to the scarcity of skilled manpower for the development projects.

Another major takeaway from mapping the DSRP structure is that the community which should have been at the center of these development projects were mostly excluded. As the community is the main beneficiary of the development projects and also the ones who get affected by it the most, they are an integral part of this map. "The issues of the community" was identified and added to the map after the structural predictions. We came to an understanding that the issues for the community had been causing major hindrances in the implementation of the development projects. Similar to us excluding the community from the initial map, the community in reality has also always been distant or excluded from discussions regarding the development projects. Even though the community might have many concerns such as those relating to destruction of community residences, destruction of historical sites, environmental issues, and about foreign influence related to politics; they usually don't have a loud-enough voice in the discourses that take place.

POSIWID Analysis

AS SHOWN IN TABLE 1, we have noted some major problem statements as a part of the POSIWID Analysis which has allowed us to identify its current POSIWID and its future POSIWID. Furthermore, this has allowed us to conduct the root difference analysis which has helped us to see the difference between our current and future POSIWID.

For the problem statement “Informal ties between the government and the private sector is degrading mechanisms of awarding contracts to the deserving”; we have identified, through the help of the current POSIWID, that there is an informal relationship between the government and the private sector which is allowing those private companies who are in close proximity with government officials or those who have good relationships with government officials to get contracts for the development projects. This is a malpractice which is hampering mechanisms for fair competition. Therefore, we have identified the future POSIWID – the existing implementation of development projects is exceptionally good at forming a formal relationship between the government and the private sector to better the public-private mechanisms for better implementation of the projects. The main differences between the two POSIWIDs included whether the system was based on cartelism or free competition, the nature of the negotiations and the practices, and whether the focus was on the companies or the system.

For the problem statement which talked about government accountability in relation to the community, we were able to identify the current POSIWID as “The government of Nepal is extremely good at being apathetic and indifferent towards community concerns which brings in disturbances in the implementation of the development projects”. This was also a system-level behavior that we identified, as all governments who had taken responsibilities over the past few years had shown the same behavior. Usually, while the government is focused on their ambitions, they do not pay much attention to ground-level realities and the issues of the community. This has often brought issues with the implementation of the development projects because the government neglects them and the community protests afterwards. Due to this, we were able to identify the future POSIWID which tells us that the government is empathetic and understanding about community concerns, and manages it so that it does not cause any disturbances with the implementation of the projects. The root differences such as - haphazard development vs. balance development, government goals vs. community goals, and accountability to party funders vs. accountability to the people - are crucial in understanding the dynamics of this problem statement. With these root differences, we can confirm that the government had not been placing the community at the center while planning the projects.

Regarding the problem statement “The complicated legal system creates obstacles for performance as per the requirements”, the current POSIWID was identified as “The legal system of Nepal is very good at creating hurdles and obstacles to make it difficult to implement the development projects”. With regards to this, even though the judiciary is the main agent which brings a check-and-balance into the system, we have not identified it as a major agent which has caused disturbances in the implementation of the projects. This is because the legal framework which the judiciary uses as a base to give its verdict itself is complicated. Due to this, we have identified the future POSIWID as “The legal system of Nepal is very good at facilitating the implementation of the development project goals”. For the problem statement which talks about the government not being able to manage the resources that are required, the current POSIWID talks about how the government is extremely good at planning without proper accounting of resources. This has been a major issue for the implementation of the development projects, as projects often get delayed because of lack of resources.

CAS Analysis

THE CAS ANALYSIS AS SHOWN IN TABLE 2 tells us that there are 5 salient agents to this system – which include the government of Nepal, the institutions relating to forming legislation, the courts of Nepal, the community, and the private sector. All of these agents have their own set of simple rules which they follow to bring out the current system-level behavior.

The government of Nepal has simple rules such as giving projects to those in the private sector who are closer to them, and focusing on selling aspirations rather than on ground-level realities. The system-level behavior that this brought out was that this degraded mechanisms for free and fair competitions, and created a loophole in the system. Due to this, projects were not given based upon meritocracy which was the root cause of projects not being implemented properly. If private companies who are not capable of implementing such projects are given the responsibility to implement them, there is little chance that they will be successful.

The institutions related to forming legislation like the house of representatives, the national assembly, the provincial assemblies and the local assemblies have a simple rule of creating a stringent legal framework as per their interests to prevent fraudulent activities. Developing frameworks as per their interest means that the institutions were forming legislation based upon what they thought was required

but was not necessarily guided by evidence. This often created a mismatch which led to the stringent regulations which were often conflicting with each other. Because of this, the system-level behavior of creating hassles to fulfill requirements was born.

The community has a simple rule of protesting and creating obstruction when their concerns are not heard. This simple rule arose because the community was not made part of the process of planning for the development projects. As they did not have a voice during the planning phase, their concerns were often neglected which led to them protesting against the development projects at a lot of instances. This further caused hindrances in the implementation of those projects. The private sector, on the other hand, has a simple rule to lobby for their benefits. They lobbied mostly to gain financial benefits or to get around penalization when they did not do their work properly. This tendency opposed a meritocratic system, and led to a system level-behavior of letting works be unfinished and the outputs be of low quality.

Rubric and Recommendations

THE RECOMMENDATION RUBRICS WERE DEVELOPED after which it was taken as a litmus test to make recommendations. The recommendation rubrics are very important as they bring a focus for the recommendations. This helps the recommendations not be distant from helping the desired goals or desired POSIWID. It also helps keep recommendations feasible by eliminating those recommendations that are not possible to adopt. The recommendation rubrics included aspects like – recommendations should focus on systemic, institutional and procedural change; they should not exclude any agent's perspectives; they should offer management solutions and should not be biased; and the recommendations may offer only a partial solution and may also be subjected to modifications over time. Allowing recommendations to be further modified over time also helps us take into account the future interventions that could be needed. Furthermore, taking into account that recommendations might not offer a full solution also considers that there might be future interventions, additional recommendations or solutions. It is very important that the recommendations should focus on systemic, institutional and procedural changes because it will help make the changes sustainable. Furthermore, it is also very important that the recommendations are free from biases and inclusive of all agent's perspectives. This will make the recommendations implementable.

The first recommendation we made was that the community residing near the area of development projects or being affected by

development projects should be made part of the planning process. This would help reduce or even eliminate the conflicts that may arise with the community in the future. This recommendation is agent-based because it considers the role of other agents, which is the government and also the community. The government is the agent which needs to take action to make the planning process inclusive of the community's perspectives. If the government takes this action, it will develop a system-level behavior of smooth implementation of the projects without conflicts with the community.

The second recommendation is that laws should be made and amended to facilitate development projects by also taking into account global best practices. This recommendation is especially directed towards the law-making institutions (i.e. the house of representatives, the national assembly, the provincial assemblies, and the local assemblies) which is also an agent. If this agent takes into account that the current law is making it difficult to get work done, and focuses on making the legal structure facilitating rather than stringent – it would help resolve this issue. Furthermore, a well-functioning legal system can also help develop a meritocratic system. With this, a system-level behavior of a well-functioning legal system to facilitate implementation of development projects would be developed.

The third recommendation is that the selection procedure and selection of private companies to work for the development projects should be made transparent. This is directed towards the government. If the government initiates this action, it will allow the development of a system-level behavior of a meritocratic system. This is because if the selection criteria and procedures are made transparent, only those companies who are capable of implementing the projects will get the job. Furthermore, if the procedures are transparent, the private sector will also not be able to lobby to get around penalization if they perform badly.

The fourth recommendation is that project planning should follow an evidence-based approach and should take global best practices into account. This is also directed towards the government. If the government adopts a methodological way of deciding upon projects rather than in the current haphazard and opinionated way, the projects will be based upon the ground-level realities. In the present context, a lot of projects are not even feasible, but get initiated because of the attempt to please the masses. So, a system-level behavior of projects being based upon ground-level reality will arise if this recommendation is followed.

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