


beginning though initially, it has started with a very participatory approach but now because the economic status is making them independent and they are able to take some decisions.

And earlier local government was not playing but now, gradually local government also have taken part of the whole process and the economic status is actually, supporting to that.

But, when we talk about the public areas, they are often neglected except a few main squares was what you can see is a main square in Alto Mayo.

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Public areas are neglected, except for the main squares which have adequate lighting, trees and benches; secondary roads are usually unpaved and have no trees.

Migrants have created problems, having settled on plots on the outskirts of the towns increasing their savings and thus creating a demand for more housing and services, forming new settlements with no previous planning, destroying the forests and producing climate changes that will result in a shortage of water.

1.33 million hectares have been deforested, nearly 27 per cent of the total area.

Deforestation

Figure 13.2 The main square in Alto Mayo

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And which has been you know, you can see the secondary roads are not normally paved and they do not have any trees or plantation except for the main squares they have not concentrated much on the public spaces. So, they also the migrants have also created problems, you know they started settling down on plots and outskirts of the towns increasing their savings and thus creating a demand for more housing and houses.

Because the more migration has started coming up and that is where the demand of housing and services and which means they are forming new settlements without any previous planning and this is one of the important aspect is deforestation, it says 1.33 million hectares, have been deforested with these migration process and nearly 27% of the total area which comprises 27% of the total area has been deforestation.

And now, that is where we are talking about the indirect impact on the climate change aspects, which may result in the shortage of water, which will again turn into a cycle of having an impact on the agricultural impacts.

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**On-site reconstruction:
Post-flooding
reconstruction in Morropón,
Piura**



In 1997 and 1998, the El Niño phenomenon brought about nine months of heavy rain, floods and changes in temperature that resulted more than 85,000 victims in Piura and 8,000 homes were affected, half of these in Morropón.

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So that is the brief about the Alto Mayo constructions and the second one is about the on-site reconstruction, post-flooding reconstruction Morropón in Piura region. So, again in 1997 and 1998, there is El Niño phenomenon which about 9 months with heavy rain, floods and changes in temperature that has resulted more than 85,000 victims and Piura and 8,000 homes were affected.

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To prevent a future water shortage, dams were built.

The construction system with concrete foundations and one metre footings to prevent possible floods was built with improved quinchá (timber frame), with the active participation of the local population and using local materials.

Urban planning was based on reducing vulnerability and centralizing water, electricity and health services. The houses were built on 200 sq. m plots, forming a housing complex.

Guidelines were provided to water users' boards, promoting an efficient use of wells and water supply systems. Drainage studies were conducted to reduce risks in the area and a risk map was drawn up to pinpoint the most vulnerable locations.

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So, because being an agricultural sector, this particular region is rich in its agricultural sector, so one is in the reconstruction process, they looked at how to prevent the further water shortage and dams have been irrigation projects have been built and also from the housing the construction system with concrete foundations of 1 meter footings to prevent possible floods was built an improved quinchá.

Again, they use the quincha timber frame with the active participation of local population and materials. So, even here, the participation has been incorporated and getting the local materials. Now, here being agricultural family again the whole idea of urban planning is to reduce the vulnerability and the centralizing water and services and this is where all the housing complexes are built in about 200 square meters plots.

So, there have been also provided with certain technical guidelines, how to use water and you know promoting an efficient use of wells and water supply resources and risk mapping has been done on the drainage studies and they also identified certain vulnerable locations, so, there have been also communicated to the people. This is how mostly emphasized on the water segment and the irrigation services as well.

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Situation today

In most cases, they have planted plants or flowers in small gardens in front of their homes. These individual efforts have made the whole town look colourful, cheerful and original.	The people developed their own system adapted to local weather conditions.	A particular characteristic is that, on their own initiative, the families have painted the front of their homes in bright colours and decorated them with different drawings (birds, mermaids, geometric figures, etc.).
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Now, what happens here? Today, the situation here, is very colourful and very cheerful. One is, people have planted flowers and make the small gardens and they also develop their own system adapted to the local conditions, so because they had tin sheets basically, with this advanced I mean upgraded quincha system, they also adopted certain local techniques and they try to modify their dwellings.


So, that is where in any response personalization is a very natural response to either to climate aspects and as well as the cultural deficiencies. So, the fronts have been taken care of because they have painted with various murals with drawings like birds, mermaids, geometric figures, so this actually shows you know, they made them private gardens into it, they looked

into the green concerns of it. This shows that you know the community's self-esteem has been considered very much.

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Figure 5 Improved adobe house in Ayacucho, Peru. © ITDG.

On-site reconstruction: Post-earthquake reconstruction in Chuschi and Quispillacta, Ayacucho



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And that is how the participation have ensured that they have taken the self-esteem forward. I will also discuss about the third case, which is an on-site reconstruction again and post-earthquake reconstruction in Chuschi and Quispillacta Ayacucho. So, this is an adobe house, so what they did was they have adopted because being in all these 5 or 6 settlements, the poverty is one of the common factor.

And here, what they did was they tried to train them making adobe square blocks and train them in making this adobe houses.

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No improvements have been made in public areas, the streets are gradually deteriorating, the stone paths have no clean or uniform paving, ditches have not been cleaned and only a few attempts have been made to plant trees.

People have become dependent and have lost their dignity and self-esteem, the traditional form of community work has been destroyed and the efforts, actions and intentions of development cooperation organizations have been wasted.




Figure 13.3 Carved stone church in Quispillacta built with the population's efforts

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And how to make some improvements on it and again, here also they consulted the people what kind of beneficiaries and they make involved and all the people in making these houses and everything but what we see is there is not many improvements have been made in public areas, like you can see the streets have been gradually deteriorating, the stone parts have not clean and uniform paving and ditches have not been cleaned.

So, which means, this is where, there is a negligence on the public space itself but one interesting thing is people have invested the time and effort to actually to make this particular carved stone church in Quispillacta built because this is how one positive sign of it but somehow it has not been taken into the overall scheme, you know, how the same energy could have well better used here in making this well.

So, this is one thing we can learn from this. So, why does it happen like this? Because people have become dependent and have lost their dignity and self-esteem because state institutions have been providing them whatever they need it, so in that way that participation aspect have gradually come down and they are almost becoming mostly dependent yes on the state institutions support and either they are looking for any kind of external support or a cooperation.

And the traditional form of community work which is called of ‘Ayni’ which is a kind of give-and-take process in the South American continent. They have this traditional system, so that has gradually destroyed and the efforts and actions or intentions of the development have been wasted. So, despite of having this kind of energy, we are unable to, they were unable to invest that in holistically.

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On-site reconstruction: post-earthquake reconstruction in Moquegua

Moquegua was struck by an earthquake on 23 June 2001 (6.9 degrees on the Richter scale). Of the total population of 88,758 people, 42,350 people were affected and 11,886 houses were destroyed or declared inhabitable; of these, 6,300 were in the city of Moquegua.

The project consisted of three stages, targeting 195 families, which were implemented in the Mariscal Nieto Province between August 2001 and April 2003:

1. Moquegua one: The construction of 103 adobe houses.
2. Moquegua two: The construction of 42 adobe houses.
3. Moquegua three: The construction of 50 concrete block houses.



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Similarly, in on-site reconstruction, post-earthquake reconstruction in Moquegua, here, it is also struck by in 2001, it is about 6.9 Richter scale, it is struck by an earthquake and almost 11,886 houses were destroyed and declared inhabitable and here, what they did was again they did about again in all the cases the NGOs are coming into the picture and they are working with the local governments and the local leaders and they are able to map what are the lists of the beneficiaries, how to provide.

So, the 3 stages, they targeted 195 families, which is implemented in Mariscal Nieto Province between about 2001 and 2003. So, in Moquegua one, they constructed about 103 adobe houses and this is again 42 houses in stage two and in the last one is a 50 concrete block houses.

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Figure 13.4 Housing module built in Moquegua with traditional saddle roof

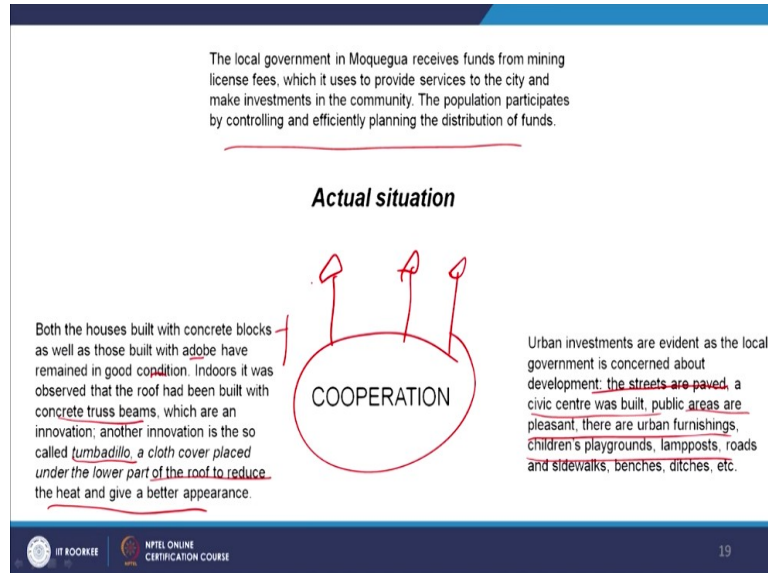


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So, here, what happens is they also looked at involving the community in the recovery process and they also made some modifications according to their needs but what you can see here is this has been very successful.

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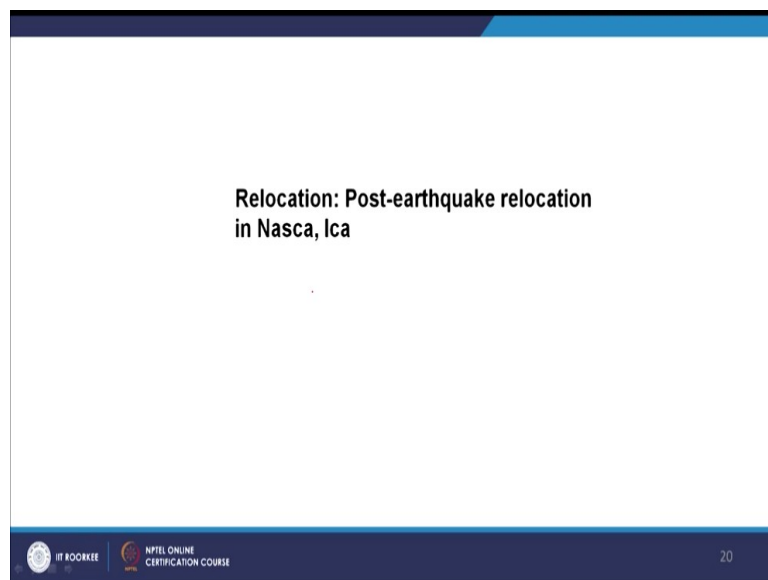
But here, because of the mining aspect, so they also the local government also received some mining fees and which again it has been in turn used to provide the city services and make investments in the community. So, the population, the community participation controlling and efficiently planning the distribution of funds. So, one is the mining being one of the richest economy, so it also supports to facilitate these services.

And both the houses of concrete blocks and as well as adobe remained in good conditions and in both the cases it has been technically guided and they remained in a good condition and this is where they also implemented one more indoors, the roof has been built with concrete truss beams, so they have this concrete truss beams which are an innovation and another innovation called tumbadillo, a cloth cover placed under the lower part of the roof to reduce the heat and give a better appearance.

So, they try to cover a cloth under the roof so that it can you know reflect the heat and it can make the indoor environment a little cooler and when people are participant in this, when the economy is giving support and the local government is technically giving support for a safer environments, so that is where you know the urban investments what you can see here today is they are improving.

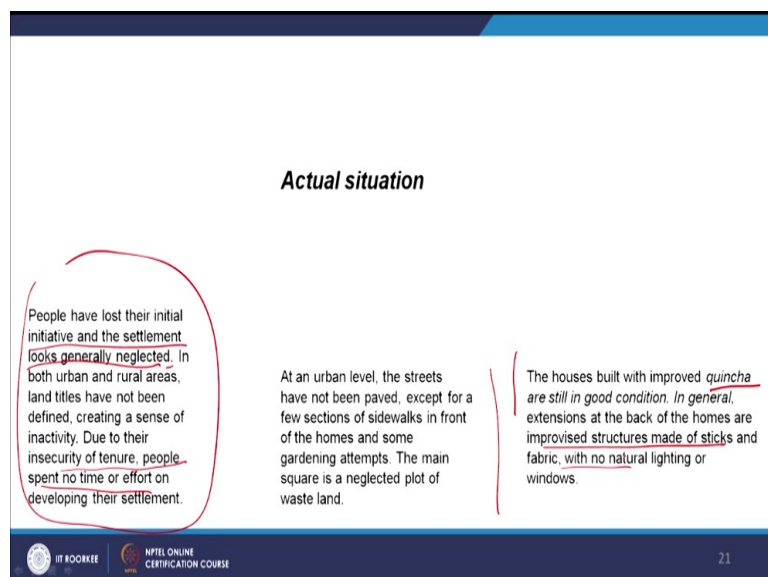
The streets are paved and a civic centre was built, public areas are pleasant and children playgrounds, everything has been taken care of and this is where, we see the biggest thing is the cooperation, the cooperation from the community, this is how, how it is continuing in this process. In the earlier cases, initially they were part of it but then there has become a dependent part of it and then they ignored it. So, in this case, it was continuing.

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This is another case, relocation, post-earthquake relocation in Nasca, Ica. The second, the following case is also in Ica.

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So, here, also what they did was the similar patterns have been followed and here, the people have lost their initial but today the situation is they lost their initiative and the settlement look generally neglected because mainly the promising land titles have not been defined. So, the