THE EARTH SCORCHED:
ENVIRONMENTAL VIOLENCE IN THE IXIL TERRITORY

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Evidence provided by Forensic Architecture relating to atrocities and grave human rights violations perpetrated against the Ixil Maya people by state security forces during the period of the dictatorship of General Fernando Romeo Lucas García in Guatemala (01 July 1978 – 23 March 1982). Report presented to the Office of Human Rights, Agencia Fiscal 1, Unidad de Casos Especiales del Conflicto Armado Interno.

EXECUTIVE SUMMARY

Between 1960 and 1996 Guatemala underwent one of the longest and most brutal of Latin America's dirty-wars. The UN-backed Commission for Historical Clarification (CEH) estimated that more than two hundred thousand people were victims of massacres, extrajudicial executions, torture, sexual violence and forced disappearances during the internal armed conflict, most of them indigenous Mayan peoples. In 97% of the cases of atrocities and human rights violations documented by CEH, the perpetrators were state security forces, military or military-organized civil militias.[1]

The most violent period in the internal armed conflict took place in the early 1980s in the Mayan territories of the Guatema's west highlands, peaking during the dictatorships of General Fernando Romeo Lucas García (01 July 1978 – 23 March 1982) and General Efraín Ríos Montt (23 March 1982 – 08 August 1983). As the state vowed to wage a "war without limits"[2] to eradicate rural guerrillas, Mayan communities were put under military occupation and subjected to consecutive counterinsurgency operations whose defining character was the indiscriminate killing of civilians and the wholesale destruction of indigenous lands, villages and towns.

Initiated during the government of Lucas García, one of the most vicious elements of this counterinsurgency was the widespread use of "sweeping operations" and "scorched-earth" offensives.[3] In the wake of systematic massacres perpetrated against unarmed civilians, the military went on burning hundreds of villages and agricultural fields, slaughtering animals, and clearing vast tracts of forests.

1. Comisión de Esclarecimento Histórico, Guatemala: memoria del silencio, 1999 (hereafter CEH).
2. US Department of State, Diplomatic Cable, 01 July 1982, Available at: http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB419/docs/GU00829.pdf
3. The term "sweeping operations" — "operaciones de peinada" or "operaciones de barrida" — is generally associated with the government of Lucas García; and the term "scorched-earth" — tierra arrasada — with the government of Ríos Montt. (See the cable of the U.S. Central Intelligence Agency dated to February 1982 in the National Security Archive, available at: http://www.gwu.edu/~nsarchiv/NSAEBB32/docs/doc20.pdf; and also Diario El Imparcial, 05 January 1982). Despite the difference in terminology, the essence of the counterinsurgency implemented by these governments was the same and operationalized using similar forms of "environmental violence"."

The Ixil people, a Maya group native to the Quiché region, was one of the indigenous ethnicities most severely affected. The CEH estimated that 70% to 90% of Ixil communities that existed before the violence were completely destroyed, and concluded that "acts of genocide, which were inspired by a strategic determination that was also genocidal in nature", had taken place.[4]

In this report, Forensic Architecture, a University of London based (Goldsmiths) research organization dedicated to the spatial analysis of human rights violations, provides a cartographic analysis of the violence inflicted by state security forces on the Ixil Maya people between 1978 and 1983, in particular focusing on the period of the dictatorship of Lucas García (01 July 1978 – 23 March 1982). The report shows that the strategy behind such violence constituted a continual process whose tactics and effects spread over time and space, and left enduring legacies in the life of the Ixil people that remain to this day.

The report synthesizes disparate datasets into a coherent chronological-spatial narrative of these events, describing the fundamental role that the built and natural environment played within forms of state-violence against the Ixil people. Information about military occupations and manoeuvring, sites of massacres, destroyed communities, and trajectories of displacement are geographically located and analysed in relation to territorial and environmental transformations. By placing multiple evidence in relation to each other in time and space, and analysing their impacts on the modes of inhabitation of the Ixil people, the following mappings present the matrix of an "environmental strategy" designed to dismantle, destroy and transform the social and cultural geography of the Ixil territory to suit the aims of state-control.

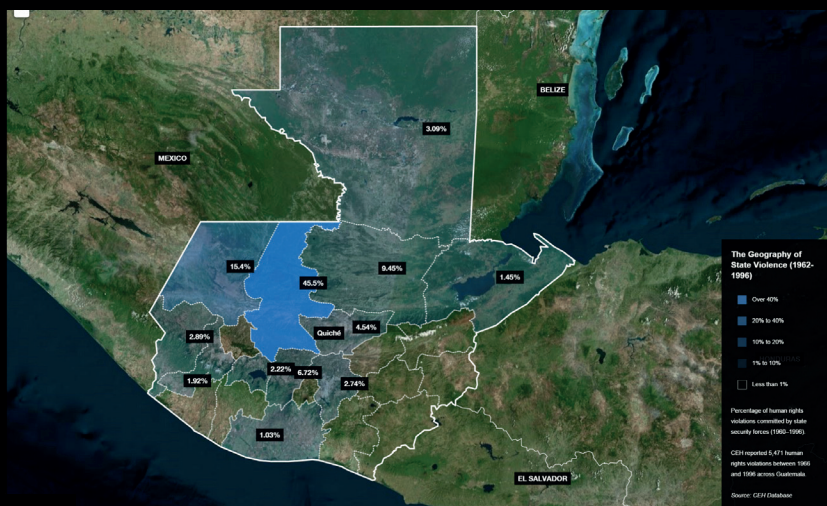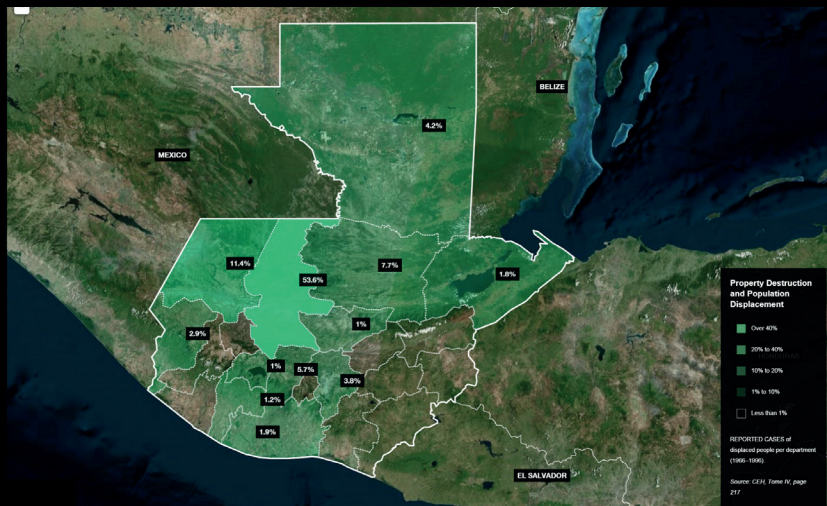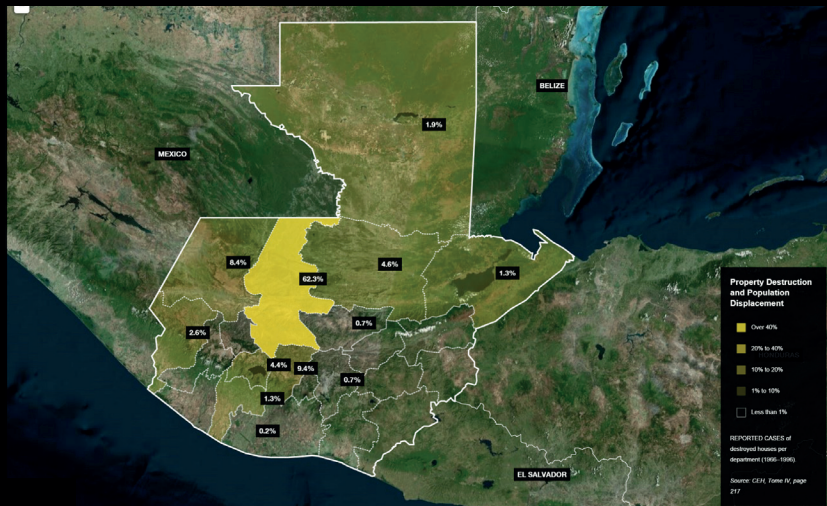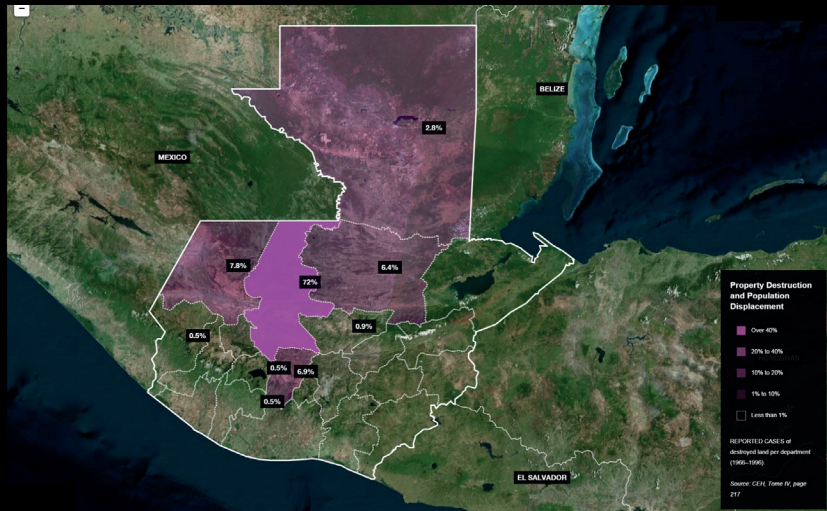## Forensic Architecture and team qualifications:

Forensic Architecture is a research consultancy registered at Goldsmiths, University of London and abiding by the University of London research and ethical standards. Its team includes architects, cartographers, remote sensing specialists, lawyers and filmmakers. It has provided spatial research and mapping in numerous human rights investigation and prosecutions by International law. Significant presentation of evidence took place at the UN General Assembly in New York in October 2013 and at the Human Rights Council in Geneva in 2014 (on the drone warfare via the UNSRCT). Forensic Architecture presented evidence in the Israeli High Court for the (Palestinian) village of Battir vs. the Ministry of Defence construction of the security barrier on their land (via Michael Sfrad, case won on Jan 4th 2015). A report on the 'Use of White Phosphorous in Urban Environments' was presented at the UN Human Rights Council Geneva in November 2012 and in March 2011 at the Israeli High Court (for Yesh Gvul via Michael Sfrad,. The Forensic Oceanography team (Charles Heller and Lorenzo Pezzani) from Forensic Architecture presented the case of the Left to Die Boat before the French Tribunal de Grand Instance in April 2012, the Brussels Tribunal de première instance, in November 2013, the courts in Spain and Italy on June 2013. The Black Friday report and the Gaza Platform, on the 2014 Gaza War developed together with Amnesty International was submitted to the UN Independent Commission of Inquiry on March 2015 and to the ICC on March and September 2015. Both leading researchers on this case, Paulo Tavares and Eyal Weizman are qualified architects and scholars.

4. CEH, paragraph 3357.

Methodology

1. *Mapping data and archival research:* The mapping data was compiled from the database of the CEH (Commission for Historical Clarification), the project REMHI (Recuperación de la Memoria Histórica), and from investigations conducted by the human rights organization ODHAG (Oficina de Derechos Humanos del Arzobispado de Guatemala) and FAFG (Foundation of Forensic Anthropology of Guatemala). Historical documentation was gathered from different archives, including the Centre for Mesoamerican Research (CIRMA) and the National Geographic Institute in Guatemala, the archives of the National Geospatial-Intelligence in the United States, and the National Security Archive project at the George Washington University.

2. *Field work:* This investigation is based on three periods of field work in Guatemala, undertaken in December 2011, November 2012, and March 2013. Field visits were aimed at tracking and mapping sites of destroyed villages and forests, collecting interviews and testimonies, and cross-verifying the remote sensing analysis of vegetation change with ground data. These studies were undertaken with the support of ODHAG, FAFG, the experts of the DICRI – Public Minister of Guatemala, and the lawyer Edgar Antonio Del Cid Millán, prosecutor of the Session of Human Rights, Agency 1, Unidad de Casos Especiales del Conflicto Armado Interno, Public Minister of Guatemala.

3. *Aerial image analysis*: We have consulted the following aerial images from 1964, 1978 and 1991 . The 1964 and 1991 images are collected from Instituto Geografico Nacional – Guatemala. The 1978 image is from the declassified Keyhole-9 satellite series collected by United States Central Intelligence Agency. The latter was accessed through United States Geological Survey, Earth Resources Observation Systems (USGS-EROS). A comparison was drawn between the changes in the Mayan territories through the 1964-1978 period and the 1978-1991 period.

4. *Satellite remote sensing analysis*: The report uses various methodologies to interpret the aerial photographs and satellite images, particularly Normalized Difference Vegetation Index (NDVI), a mapping technique that assess the levels of photosynthetic activity of plants and allows the identification of changes in land cover over time. Our analysis used satellite images from the NASA Landsat 3 from February 1979 and from Landsat 5 on March 1986, which bracketed the period of the most extreme manifestation of environmental violence. The resolution of these images – a pixel is 30 and 60 meters square respectively – is not sharp enough to capture individual houses or even villages, but sufficient to record territorial scale vegetation change. Variations in the vigour of the earth's vegetation cover over time function as a record of historical conflicts manifested in deforestation. This methodology was inspired by a previous study produced by Russell Schimmer, *Environmental Impact of Genocide in Guatemala: the Ixil Triangle and the Mexican Border*, working paper n. 31, the Genocide Studies Program of Yale University.[5]

5. Architectural analysis of satellite images sought to identify the location of homesteads. We have identified repeated patterns of a homestead at the size of 10x8 meters (80m^2). Such homesteads were often surrounded by agricultural fields and maintained a proximity to other such homesteads that ranged from 100 to 500 meters.

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5. Russell Schimmer, Environmental Impact of Genocide in Guatemala: The Ixil Triangle and the Mexican Border, working paper n. 31, available at: http://gsp.yale.edu/case-studies/guatemala/maps-satellite-images/deforestation-ixil-triangle

Figs. 01-04: Human Rights Violations, Land Destruction and Displacement:
Nationwide percentage of human rights violations, house and land destruction, and displaced persons during the internal armed conflict in Guatemala (1960–1996). The most affected region was the department of Quiché in the western highlands. Source: CEH Database. Graphics: Forensic Architecture and Situ Research 2013.

GEOGRAPHY OF VIOLENCE (1960-1996)

During the thirty-six years of internal armed conflict, the counterinsurgency gradually became the main driving force behind the functioning of the Guatemalan State. Unlawful imprisonments, torture, sexual violence, forced disappearances and extrajudicial executions were common methods used by successive governments to deal not only with armed rebels but also with trade unionists, teachers, students, peasants and indigenous leaders. In the early 1980s, as the focus of repression shifted from urban centres to the west highlands, the military promoted a campaign of terror through collective killings and wanton environmental destruction across Mayan territories.[6]

In the governments of Lucas García (01 July 1978 – 23 March 1982) and Ríos Montt (23 March 1982 – 08 August 1983), state forces operated under the guidelines of a sequence of security polices — "Ash 81", "Victory 82", and "Firmness 83" — that were responsible to implement a more systematic and violent counterinsurgency. Widespread civilians massacres were used as weapon of terror and in order to control the population of survivors. The CEH documented 626 cases of massacres during the entire period of conflict, 95% of which occurred in the early 1980s, 64% between June 1981 and December 1983.[7]

As Figure 05 shows, when plotting this data over the ethno-linguistic map of Guatemala, the region most severely affected overlaps with the ancestral territory of the Ixil. At least 84 massacres took place in the Ixil area between 1978 and 1983. In nearly all cases, massacres were either anticipated or followed by the destruction of houses, religious sites, public buildings and land. Deforestation and the burning of crops effectively made vast areas uninhabitable, triggering massive population displacement.[8]

Fig. 05: Massacres
Density of massacres registered by the CEH during the 36 years of civil war plotted over the ethno-linguistic map of Guatemala. The Ixil territory is marked by a denser cloud. In this region, as well as in the regions marked by higher density of massacres in the Quiche, Q'anjob'al, Chuj, and Achi territories, the CEH concluded that actions perpetrated by state forces during the scorched-earth offensives amounted to "acts of genocide" committed against these Mayan groups. Source: CEH Database. Graphics: Forensic Architecture and Situ Research 2013.
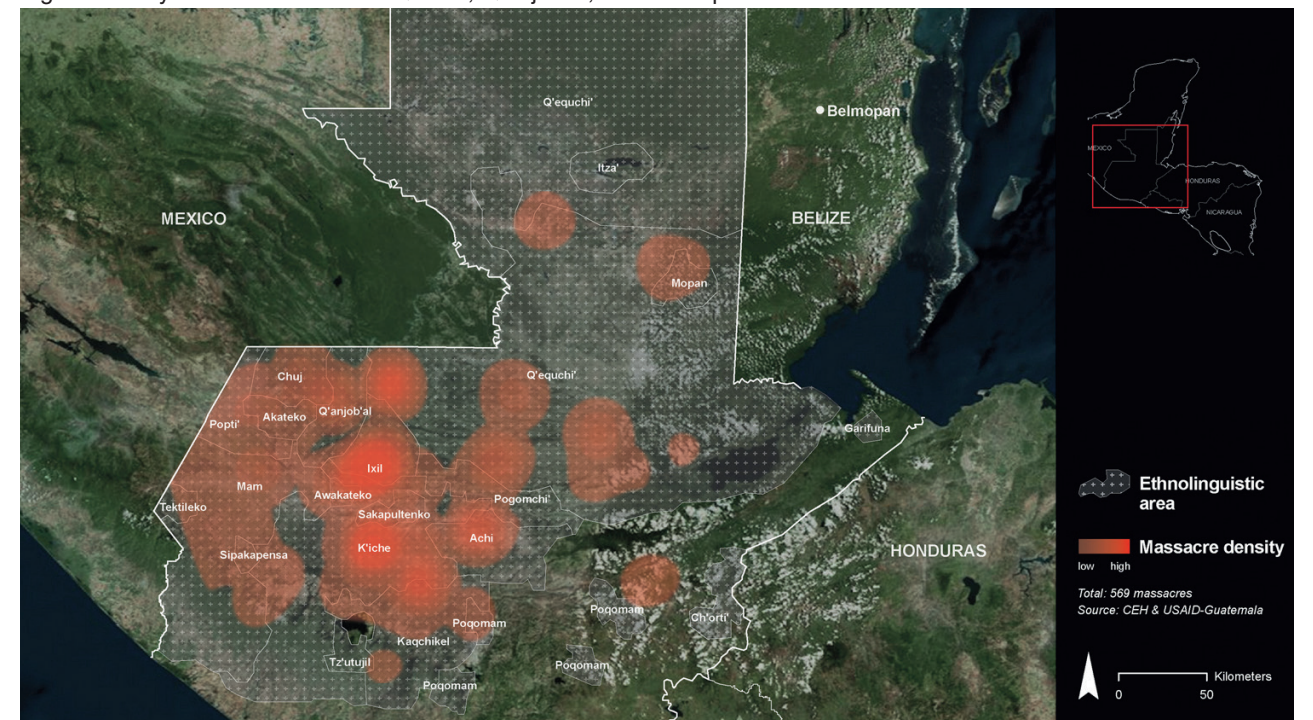
6. See CEH; Beatriz Manz, Paradise In Ashes: A Guatemalan Journey of Courage, Terror, and Hope. Berkeley: University of California Press, 2004; Greg Grandin, Who is Rigoberta Menchú, London: Verso, 2004.
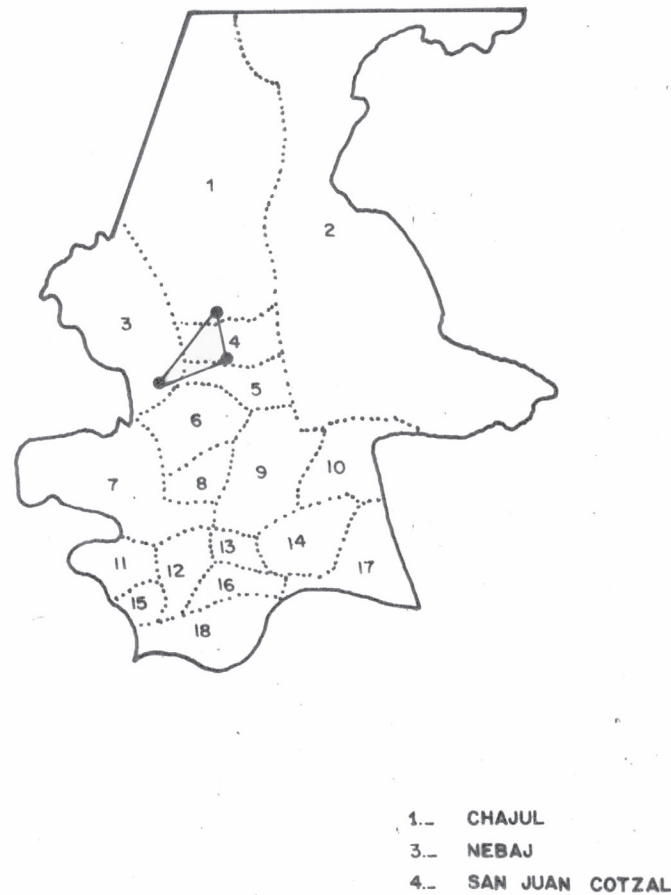7. CEH, paragraph 3064.
8. CEH, vol. III, pg. 345.

Fig. 06: The "Ixil Triangle"
map of the zone of combat "Ixil Triangle" as defined in a study produced by the Guatemalan
Army, *Cómo Erradicar la Subversión en el Departamento de El Quiché,* Tesis de Ascenso:
Guatemala, 10 August 1981. The ethnic description of the Ixil territory was militarized.

STATE-VIOLENCE IN THE IXIL TERRITORY (1978-1982)

Protected by a landscape of rugged hills, intricate valleys and dense forests, the Ixil territory is difficult to access. In the 1970s, likewise most of the western highlands, this region was virtually detached form the rest of the country due to the lack of roads and infrastructures. The Ixil communities inhabited this area with a complex network of groups of settlements composed of rather dispersed homesteads and fields carved into the cloud forest. The forest was itself partially man made with cultural plantation of useful tree species existing in higher densities near inhabited areas. The region was completely self-governing and out of the control of the state. This social and spatial geography made the high forests an even more complex terrain for state agencies to read and navigate. The autonomy that the Ixil enjoyed in the high mountain areas was in itself perceived as a threat to national sovereignty.

Starting in the early 70s, guerrilla organizations established the first bases in these forests. While for the insurgents the area offered hideout possibilities and a "social base" of sympathizing villagers, the semi-autonomous life of the Ixil and their withdrawal from the state and its national identity made the military see the region as posing a greater threat than was actually the case. According to the Truth Commission insurgent actions was responsible to 3% of acts of violence conducted during the internal armed conflict.[9]

The military defined the Ixil country as a specific zone of combat, which they named "Ixil Triangle" after the three major local municipalities: Santa Maria Nebaj, San Juan Cotzal, and San Gaspar Chajul.[10] By 1980, the "Ixil Triangle" had been completely occupied with military bases and outposts. In parallel, the Ixil people and their culture became the object of a series of anthropological and intelligence analysis.

A study produced by the Centre for Military Studies in 1980, for example, argued that "special sociological characteristics" of the Ixil made them naturally averse to the Guatemalan national society, and devised a strategy to "rescue the Ixil mentality" to the "national mode of being".[11] Informed by the doctrines of national security of the Cold War, this type of sociological-ethnographic description shaped the ideological and strategic concerns of the military. Through them, the Ixil were characterized as virtual enemies of the state, and their integration in the national culture became one of the central aims of the counterinsurgency war. Undertaken by the Guatemalan military and local militias trained and supported by the US and Israel.[12] The objective of the 'pacification efforts' was more than putting down a specific insurgency, but rather about the domestication and control of unruly areas, the expansion of state control, and the colonization of indigenous peoples, their spaces and modes of living.

Military forces occupied major towns throughout the region, transforming public buildings and churches into centres of command and torture chambers. Troops were regularly dispatched to patrol the surrounding forests, and during these operations perpetrated indiscriminate massacres of civilians and destroyed numerous villages, fields and forests.[13] The first cases of massacres in the Ixil Triangle were registered in 1979-1980 in the surroundings of Chajul, Nebaj and Cotzal. After 1981, following the implementation of the security strategy "Ash 81" by the government of Lucas García, the pattern of violence spreads over a much vaster area, reaching a peak between June 1981 and December 1983, when massacres were registered throughout the Ixil territory.

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9. CEH,Tome XII, page 236.
10. Ejército de Guatemala, Cómo Erradicar la Subversión en el Departamento de El Quiché, Tesis de Ascenso: Guatemala, 10 August 1981.
11. Ejército de Guatemala, "Apreciación de asuntos civiles (G-5) para el área ixil" and "Una Solución a la operación Ixil. Plan de AACC operación Ixil", in: Revista Militar, Sept-Dec 1982.
12. Milton H. Jamail and Margo Gutiérrez, It's No Secret: Israel's Military Involvement in Central America, Association of Arab-American University Graduates, 1986; Greg Grandin, The Last Colonial Massacre, University of Chicago Press, 2004.
13. CEH, vol. III, pg. 345.

Fig. 07: Military Bases and Massacres in the Ixil Territory:
Location of military bases and massacres perpetrated by state security forces in the Ixil territory in the context of the military campaigns Ash 1981, Victory 1982 and Firmness 1983. Massacres committed during the government of Lucas García are highlighted in red.
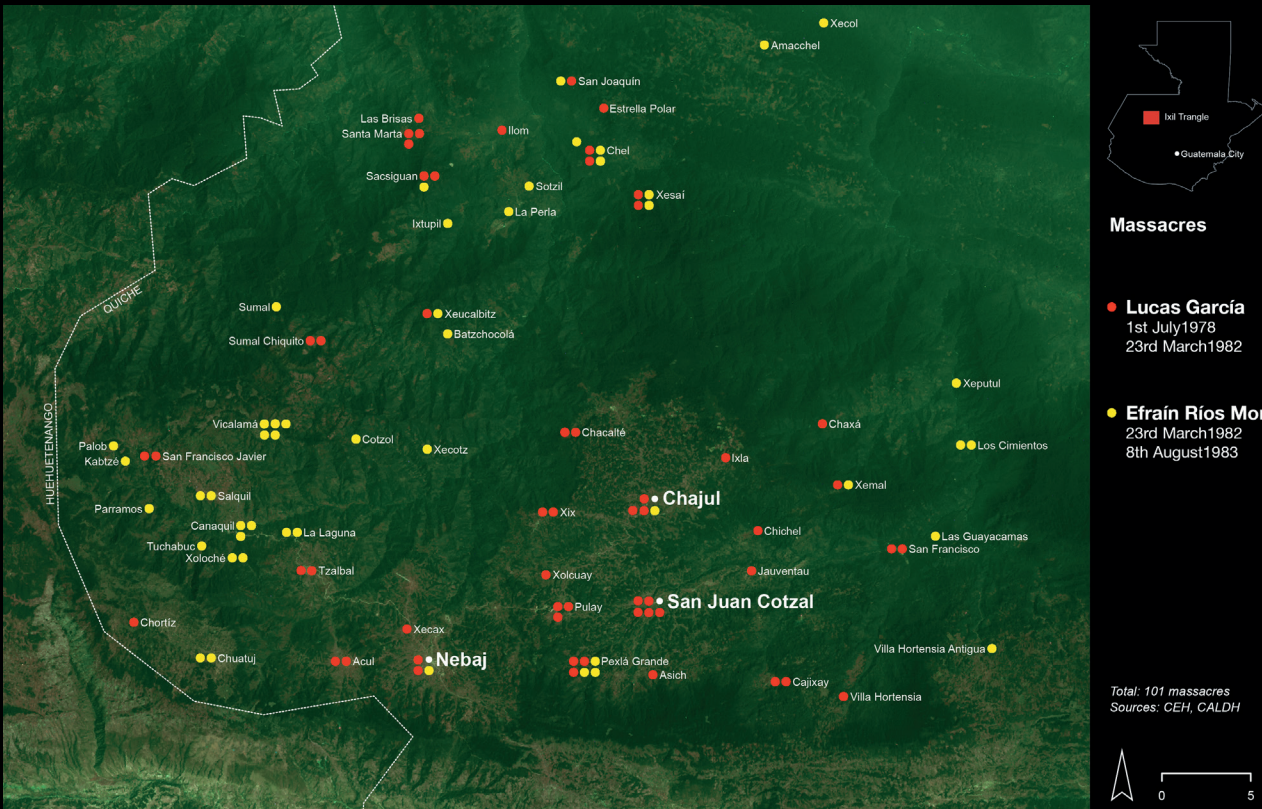
Ixil Triangle
Guatemala City

Massacres

● **Lucas García**
1st July1978
23rd March1982

● **Efraín Ríos Mont**
23rd March1982
8th August1983

Total: 101 massacres
Sources: CEH, CALDH

0   5

Fig. 08: Destroyed Communities in the Ixil Territory:
Location of communities destroyed between 1980 and 1983. The events that occurred during the government of Lucas Garcia are highlighted in red.

Ixil Triangle
Guatemala City

▨ **Community
destroyed
1980-1984**

Total:
81 destroyed communities
Source: CEH

▨ events presented
in the case
(1981-1982)

0   5

Fig.09: Location of exhumations conducted by CAFCA - Centro de Análises Forense y Ciencias Aplicadas.

Ixil Triangle
Guatemala City

■ State Security Force
■ Death By Displacement
■ Guerilla

0   5
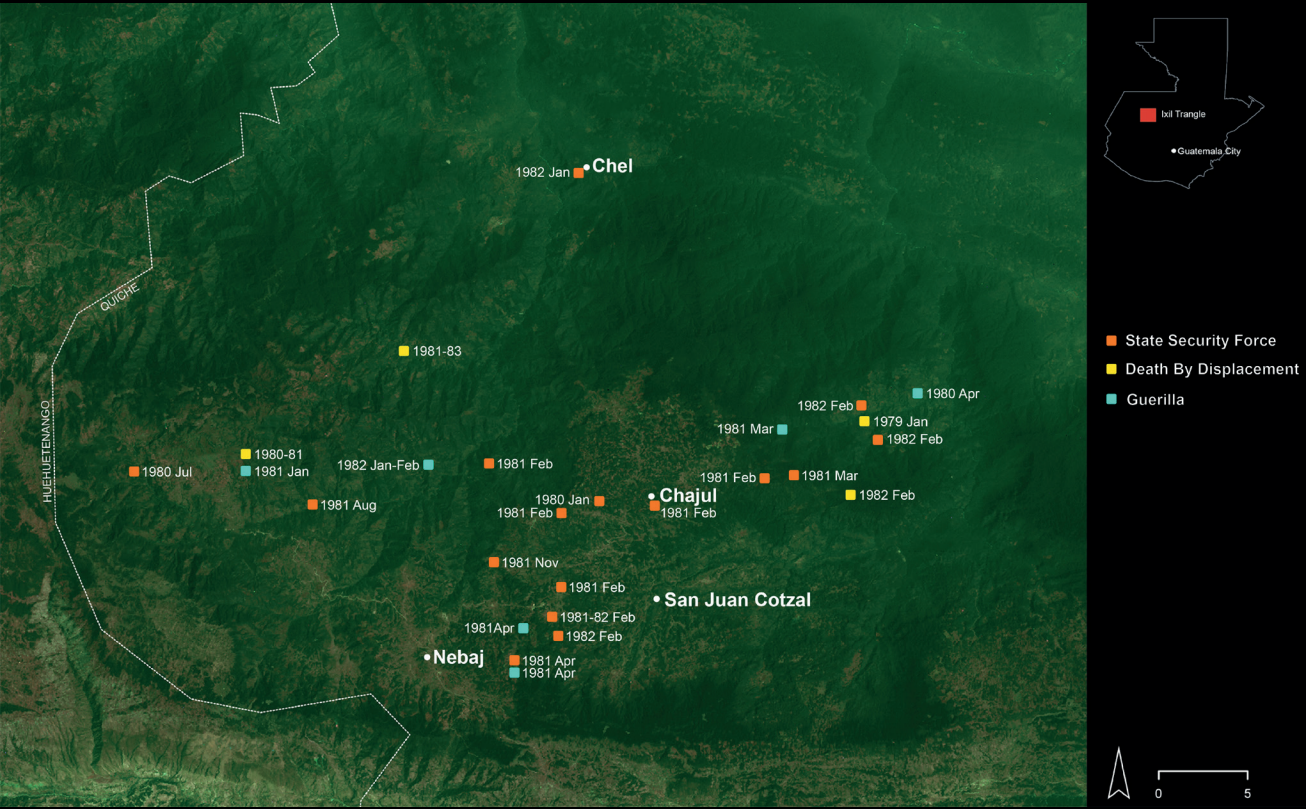
Cotzal Exhumation Site, 30 Oct 2014
Military Garrison mass grave excavation at San Juan Cotzal carried out by FAFG. Scanned as part of Liam young's Brave New Now Studio at Princeton University, in collaboration with Scanlab and Forensic Architecture.

DESTRUCTION & DEVELOPMENT

Arguably the principal aim of the sweeping operations and scorched-earth campaigns was to depopulate the forest. Emptying out areas considered "subversive" was the instrument used by the military to neutralize the "social base" of support of the guerrillas and cut their networks of supply. The Guatemalan military command marked many of the landlocked topographical islands in the Quiche region as 'red zones'. There they explained the logic of the operation — as an inversion of one of Mao's famous dictums — in 'draining the water in order to kill the fish'. In order to accomplish this, troops were instructed to deliberately destroy villages, agricultural fields and forests, thereby unleashing massive population displacement.[14]

In a secret cable dated to February 1982, one month before Lucas García left the government, the U.S. Central Intelligence Agency described the following scenario in respect to the military operations in the Ixil territory:

> "The commanding officers of the units involved have been instructed to destroy all towns and villages which are cooperating with the Guerrilla Army of the Poor (EGP) and eliminate all sources of resistance. Civilians in the area who agree to collaborate with the army and who seek army protection are to be well treated and cared for in refugee camps for the duration of the operation.
>
> (…) Since the operation began, several villages have been burned to the ground and a large number of guerrillas and collaborators have been killed. When an army patrol meets resistance and takes fire from a town or village it is assumed that the entire town is hostile and it is subsequently destroyed. The army has found the most villages have been abandoned before the military forces arrive. An empty village is assumed to have been supporting the EGP and it is destroyed. There are hundreds, possibly thousands, of refugees in the hills with no homes to return to".
>
> (…) The army has yet to encounter any major guerrilla force in the area. Its success to date appear to be limited to the destruction of several 'EGP-controlled-towns' and killing of Indian collaborators and sympathizers."[15]

From 1980 to 1983, when the sweeping operations and scorched-earth campaigns turned into an official police, destruction of towns and villages were registered in the entire Ixil territory. The CEH estimated that approximately 90 villages (70 to 90 per cent) were razed to the ground during these years. The government of Lucas García was the chief responsible for implementing this strategy, which escalated during the Ríos Montt government.[16]

About 60% of the population in the Ixil territory was displaced in the 36 years of internal armed conflict, mostly in the early 1980s during the dictatorships of Lucas García and Ríos Montt.[17] According to a study produced by the NGO Cultural Survival in 1990, the discrepancy between recorded and projected population size in the Ixil area for the period between 1981 and 1987 was at the order of 50.000 missing persons.[18]

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14. link to http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB32/docs/doc20.pdf
15. February 1982, Available at: http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB32/docs/doc20.pdf
16. CEH, paragraph 3274 to 3312 (pg 335 – 346).
17. CEH, paragraph 3361.
18. George Lovell, Maya Survival in Ixil Country, Guatemala, CSQ 14.4 (Winter 1990) Land and Resources. Link to: http://www. culturalsurvival.org/publications/cultural-survival-quarterly/guatemala/maya-survival-ixil-country-guatemala
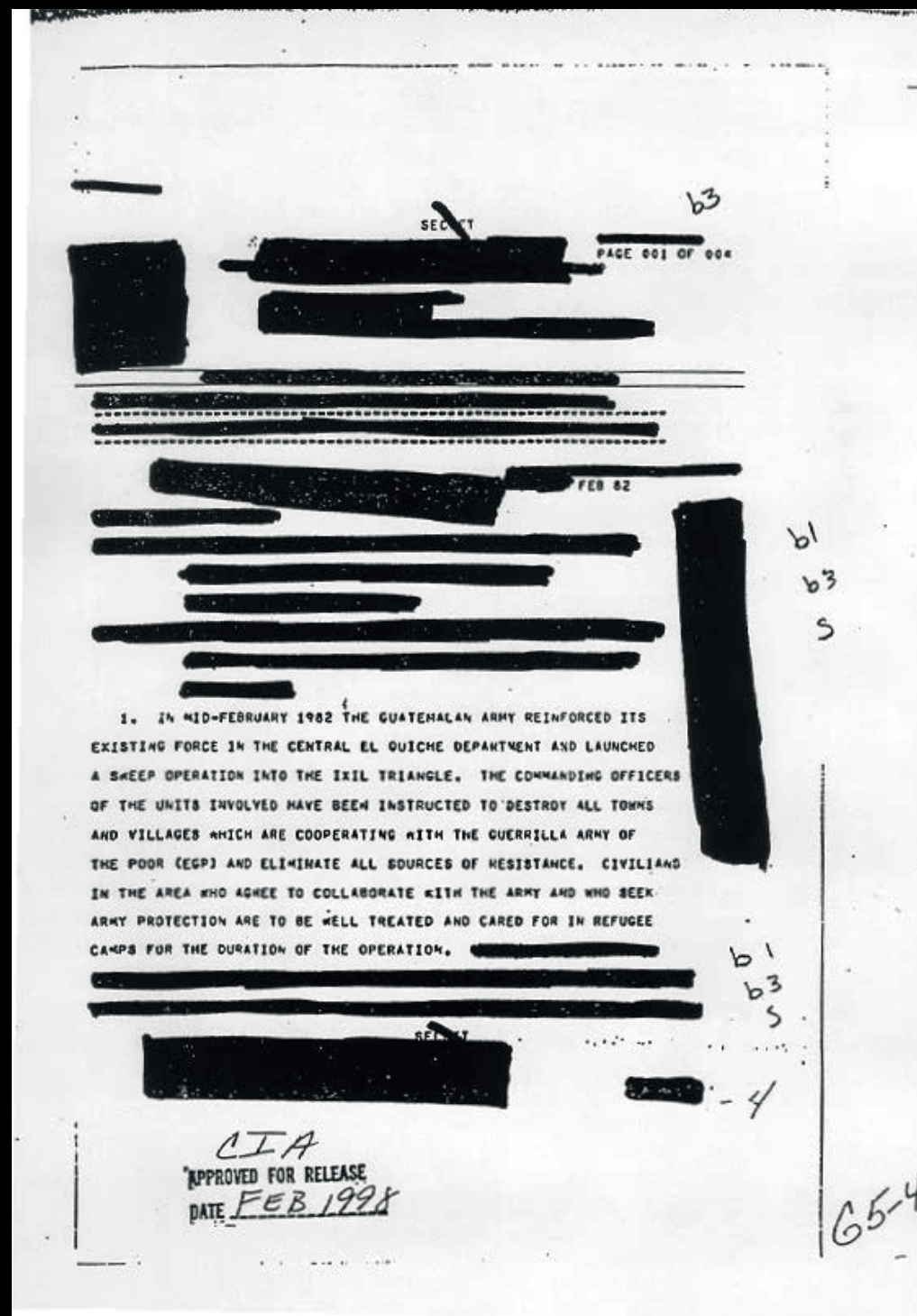
Fig. 10: "Sweeping offensives": in a secret cable dated February 1982 recently disclosed by the forensic archivist Kate Doyle, the CIA described the following scenario in respect to the military operations that were taking place in the Ixil Territory: "The commanding officers of the units involved have been instructed to destroy all towns and villages which are cooperating with the Guerrilla Army of the Poor (EGP) and eliminate all sources of resistance. Civilians in the Area who agree to collaborate with the army and who seek army protection are to be well treated and cared for in refugee camps for the duration of the operation.[...] since the operation began, several villages have been burned to the ground and a large number of Guerrillas and collaborators have been killed.[...] When an army petrol meets resistance and takes fire from a towns or village, it is assumed that the entire town is hostile and it is subsequently destroyed. The army has found that most of the villages have been abandoned before the military forces arrived. An empty village is assumed to have been supporting the EGP and it is destroyed. There are hundreds, possibly thousands of refugees in the hills, with no homes to return to." Source: National Security Archive, George Washington University, http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB425/.

When refugees managed to return to their lands, or as they tried to hide in the forests at the top of the hills, they were exposed to continuous military attacks. In some places, such as in the community of Pexla, at which our analysis looks in more detail, troops returned several times to the same villages to kill and destroy houses and crops.

The military went on collecting and transferring the survivors of the massacres in "refugee centres" located at the edges of major towns. This was followed by a developmental phase in the counterinsurgency, in which refugees and survivors were re-settled in specially designed and militarized "model villages".

Fig. 11: Social geography of the Ixil Territory before the Violence
Based on an aerial survey realized by the US Army in 1964, this map shows the housing density in the "Ixil Triangle" before the scorched-earth campaign. The yellow dots mark the position of individual houses as of 1964 over an image of 1991, which shows several "model villages" (red squares) completed. Most probably not all of the Ixil homesteads were identified in the original survey.
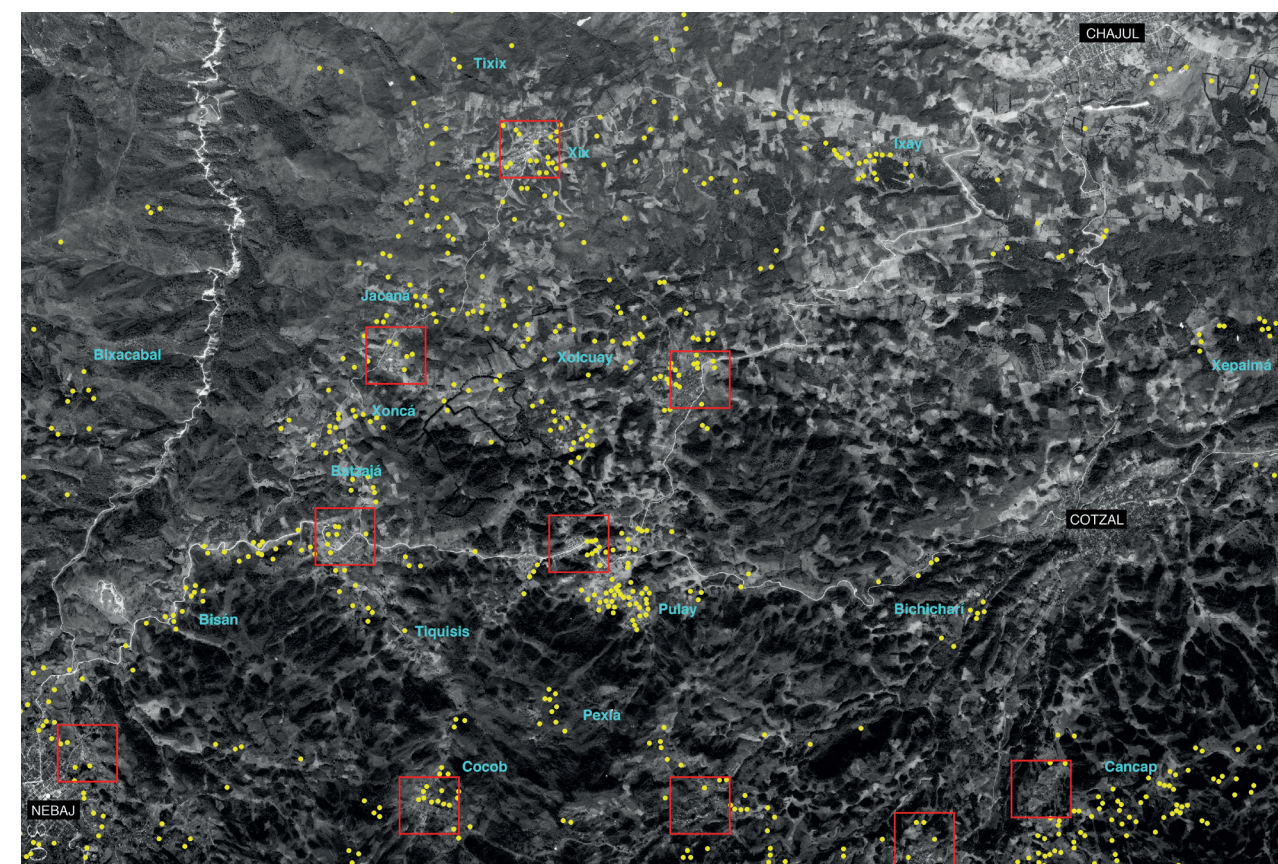
Fig. 12: Territorial Reductions
Before (1964) and after (1991) aerial images of the Pexla Grande and Xolcuay villages in the Ixil Triangle. Together with massacres and the destruction of houses and land, new road infrastructures and settlements were implemented as part of the military "development strategy." The red squares mark the location of the "model villages" built by the Guatemalan government and yellow marks the location of homesteads.
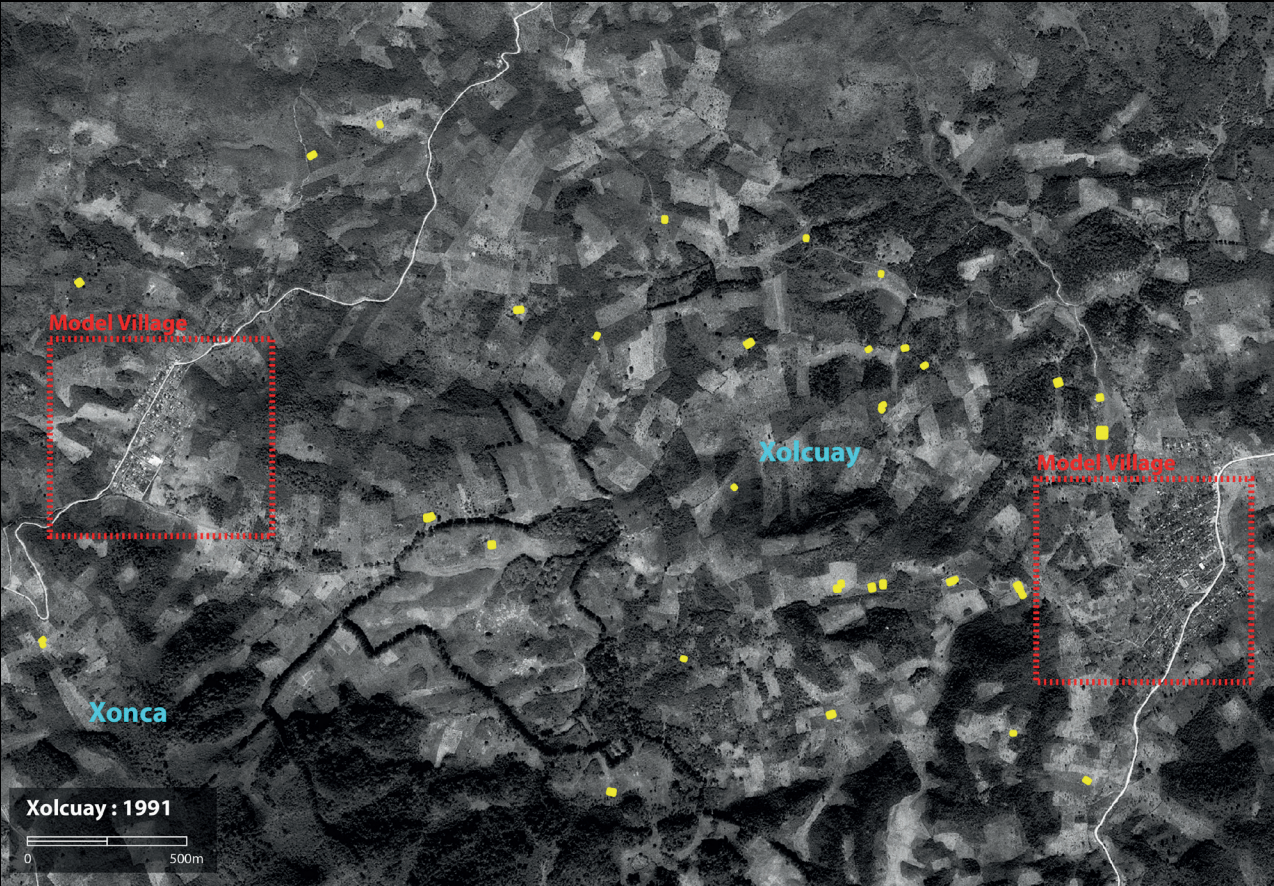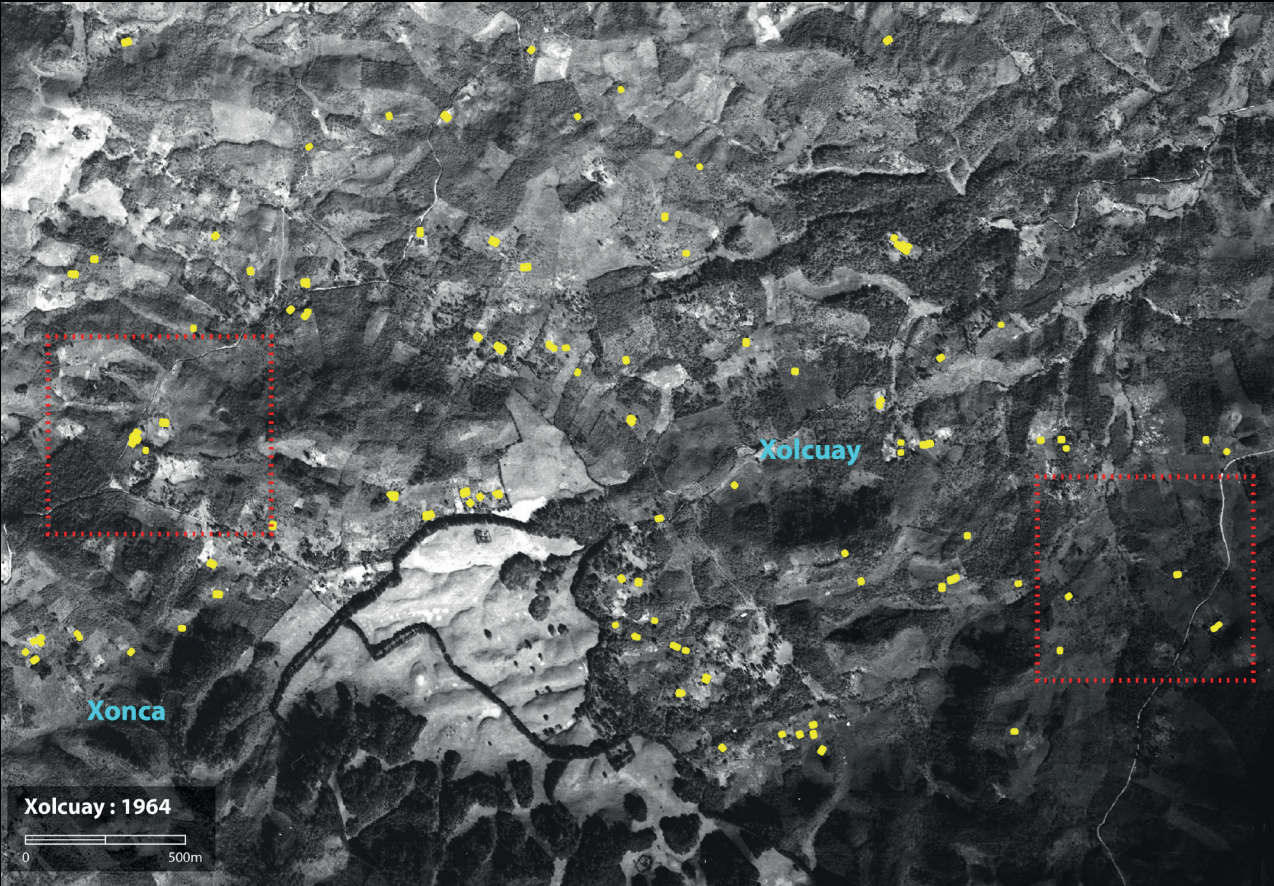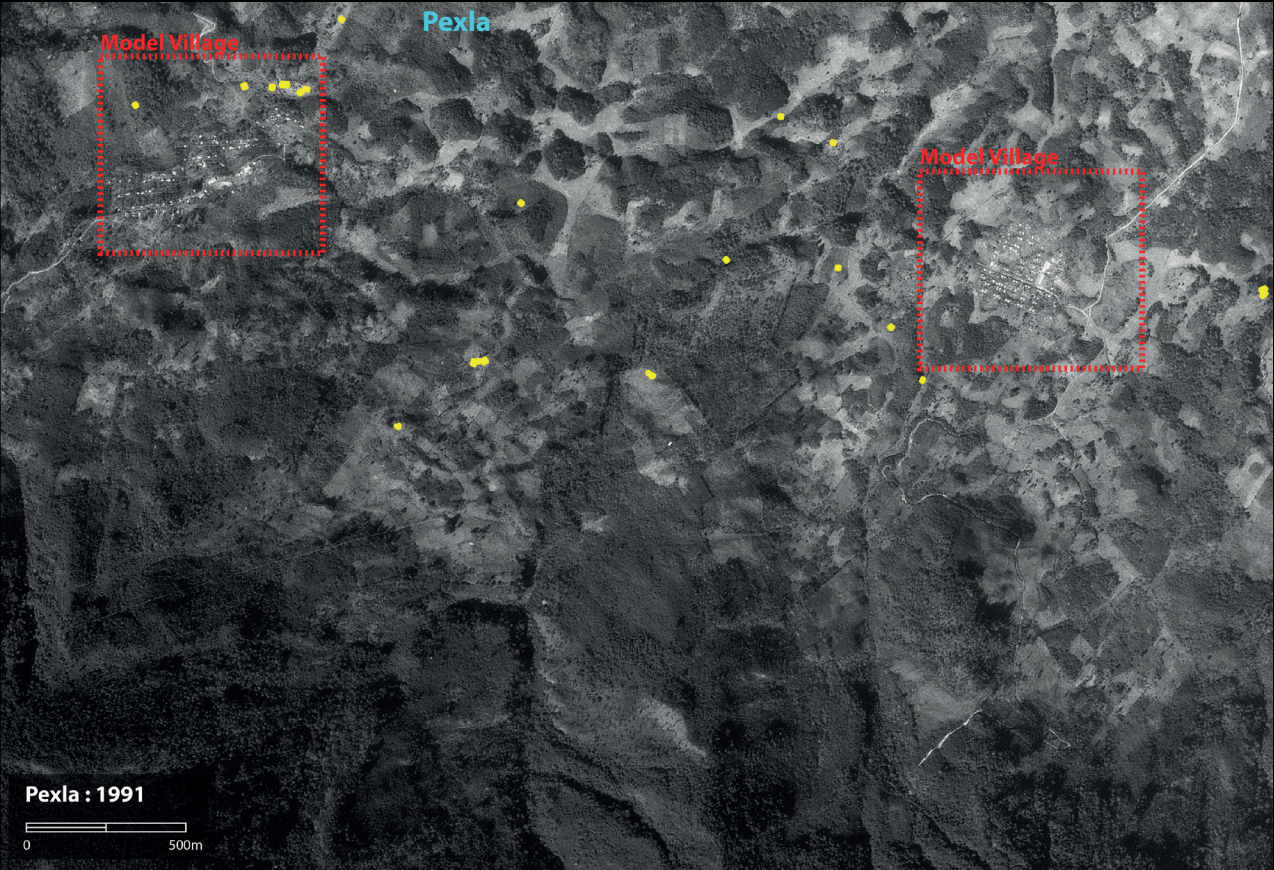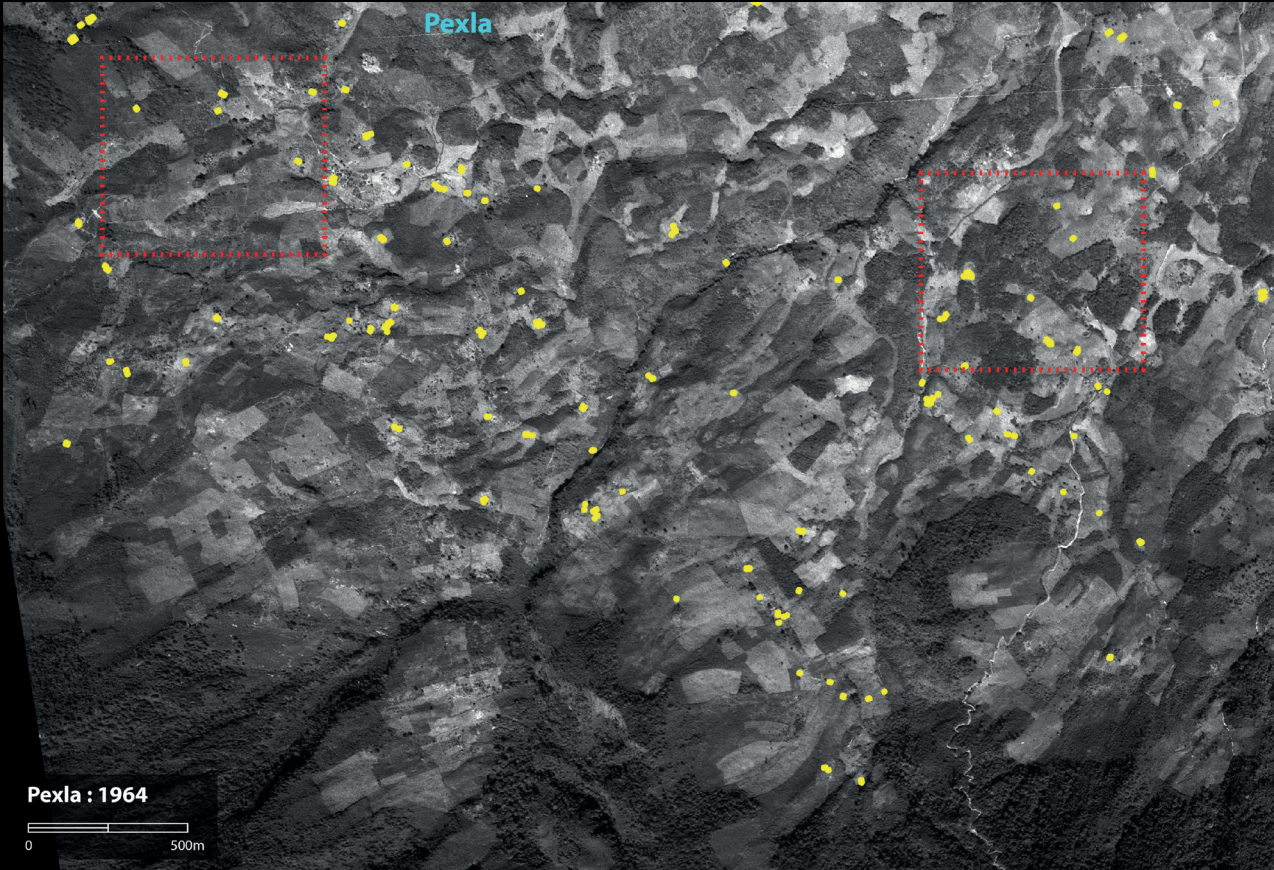

Pexla

Pexla : 1964
0   500m

Model Village   Pexla
                                    Model Village

Pexla : 1991
0   500m

Xolcuay

Xonca

Xolcuay : 1964
0   500m

Model Village

Xolcuay

Xonca   Model Village
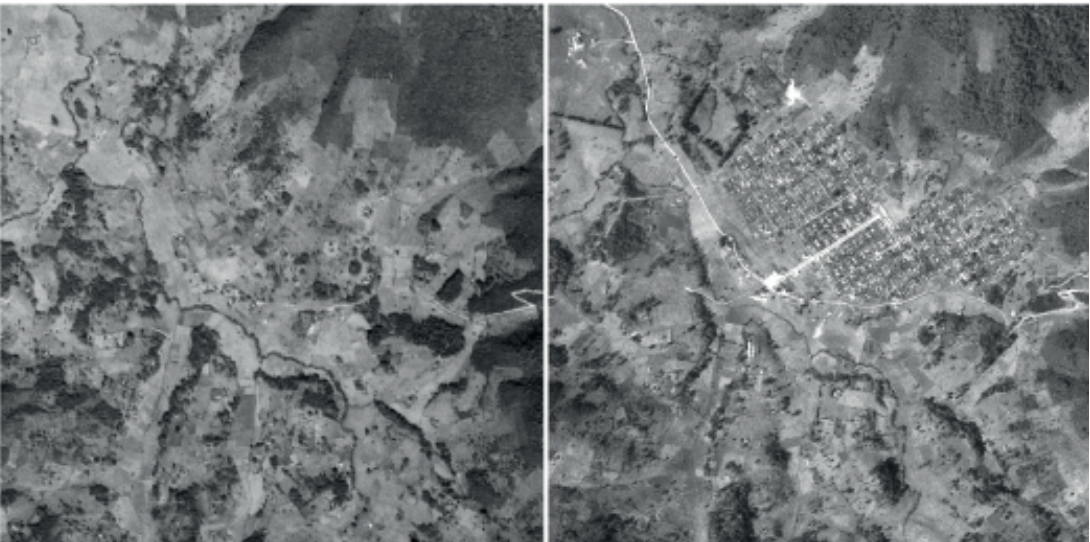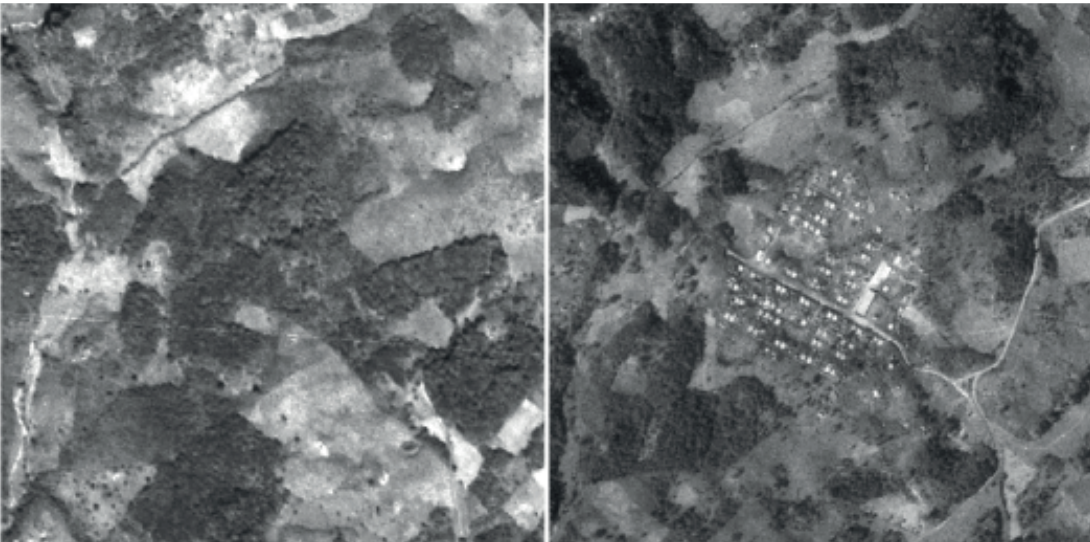
Xolcuay : 1991
0   500m

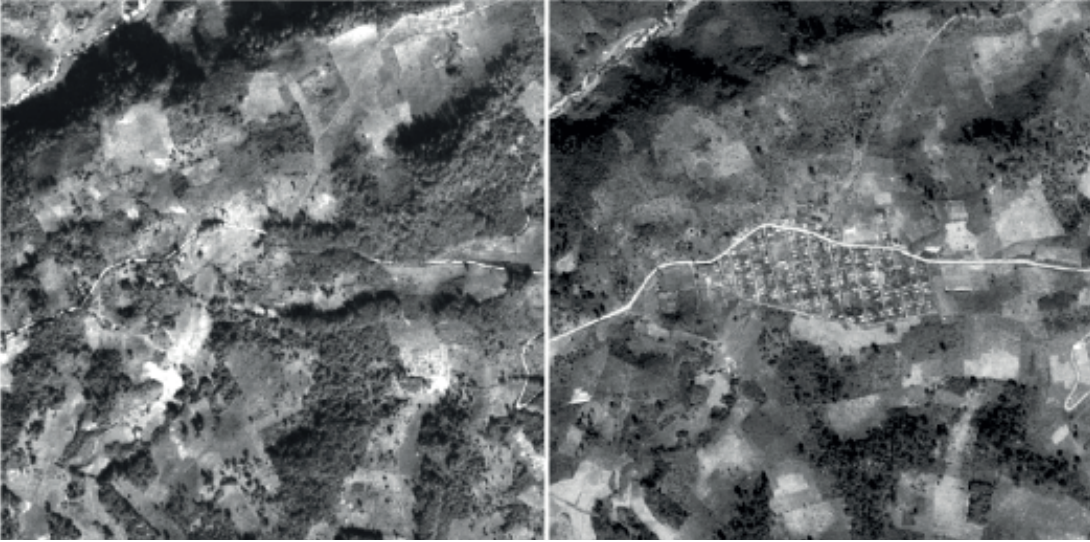**Fig. 13:** Urbanisation went hand in hand with deforestation. A comparison of aerial imagery from 1964 and 1991.
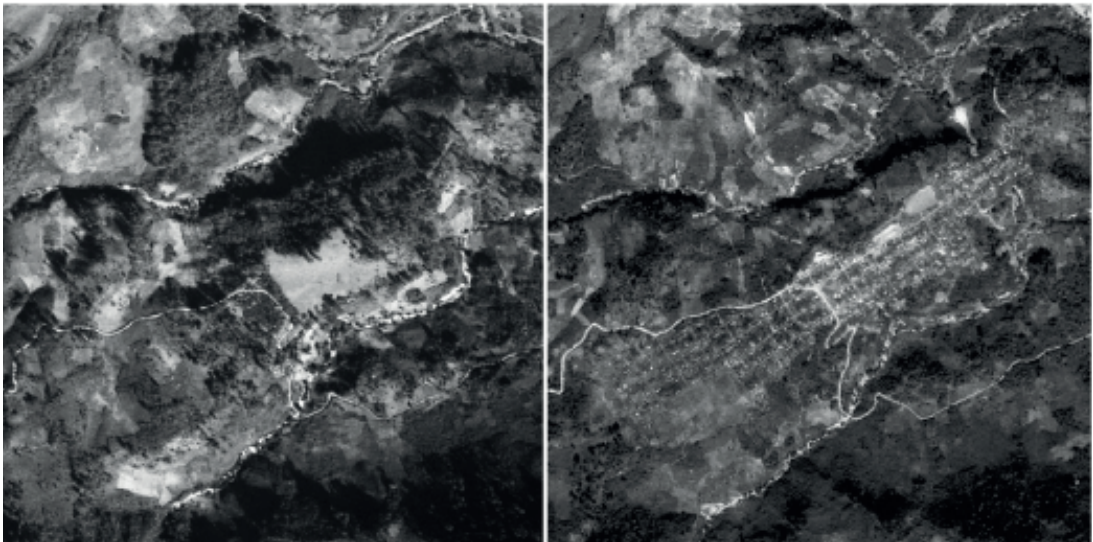
a) model village of Acul 1964/1991

b) model village of Bichibila 1964/1991

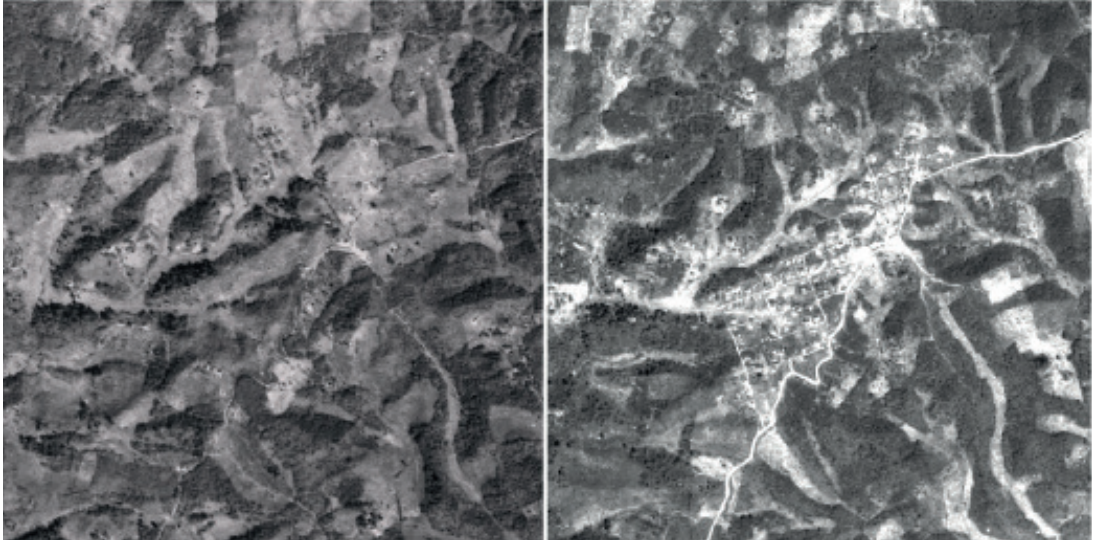c) model village of Ojo de Agua 1964/1991

d) model village of Rio Azul 1964/1991

e) model village of San Felipe Chenla 1964/1991

f) model village of Xix 1964/1991

Model villages consisted of state-controlled settlements regimented by the military and military-organized civil militias. The project of these settlements was initiated by Efraín Rios Montt, and consolidated in the subsequent government of General Mejía Victores (1983 – 1986) through a nationwide programme called "Poles of Development". They were built in sites adjacent to, and sometimes on top of, destroyed villages deemed strategic spots, and their rigid urban geometry was designed to facilitate population concentration and control.

The project of the model villages can be interpreted as an continuation of the "sweeping operations" of massacres and displacements, configuring the last stage of a violent process of social and territorial control whose origins were set in the counterinsurgency strategy initiated by the government of Lucas García.

Together with a set of new urban and regional infrastructures, model villages were part of a much larger process of territorial re-organization conducted by the Guatemalan State. Airfields and helipads were carved out in remote forest areas, new roads were opened between model villages and towns, and their margins were cleared of forests in order to facilitate the movement of military troops and convoys. Settlement and deforestation went hand in hand. Large parts of the forests was burnt down to make way for agriculture, roads and airfields.

The most elaborated and extensive plan of model villages was installed in the Ixil territory, and included the reconstruction of at least sixteen communities: Acul, Tzalbal, Juil-Chacalté, Pulay, Xolcuay, Ojo de Água, Santa Abelina, Bichibalá, Salquil, Palop, Vatzumal, Jua, Ilom, Chel, Chemal-Xeputul, Amachel, San Felipe Chenlá.[19] In these towns, indigenous peoples were subjected to psychological indoctrination and forced labour, and educated in modern agricultural technique, mono-crop cultivation of modern seeds and in commerce.

Like other Maya peoples across the mountains of Guatemala, the Ixil traditionally built their villages in small clearings within the otherwise dense cloud forests. Wooden houses with stone foundations were typically surrounded by small sustenance gardens. Small fields of beans and maize were scattered in the narrow valleys between the steep and heavily forested ranges; their borders were unclear and they were not fenced. The disposition of these villages followed a dispersed geographic planning, composing a dense and intricate network of settlements, fields and forests connected by trails and streams. The forests were considered to be social commons, and compromised a fundamental resource for local livelihood. Further, the cosmology of the Ixil conceived mountains and forests as sacred spaces.

Since this socio-natural geography allowed Ixil communities to maintain a relative autonomy from state control, it was perceived as a security threat by the military. As such, the transformation of indigenous forms of inhabitation into a more concentrated and urbanized spatial arrangement figured as a central mechanism within the overall strategy of the counterinsurgency.

Similar to the methods of "territorial reductions" used by Spanish colonizers, the modern designs employed by the Guatemalan State sought to clear land for appropriation and colonization, while at the same time imposing a total system of social and spatial control over the Ixil by confining them into these model towns.

19. Magazine of the Guatemalan Army, Polos de Desarrollo y Servicios, 1984.

Fig. 14: Model Village of Acul in the Ixil territory, ca. 1984.
Source: Magazine of the Guatemalan Army, Polos de Desarrollo y Servicios (1984).

1964- 1978

1978 - 1991

ARCHAEOLOGY OF VIOLENCE
The case of the village of Pexla, south-central Ixil territory:

The case of the village of Pexla is exemplary of the viciousness of the counterinsurgency strategy deployed in the Ixil territory in the 1980s. Situated in a strategic location in the route between Santa Maria Nebaj and San Juan Cotzal, the village of Pexla was consecutively targeted by scorched-earth offensives.

As documented in the CEH database and other investigations conducted by the human rights agency ODHAG, during the Lucas García government, state security forces attacked Pexla at least in four occasions: September 1981, when nineteen persons were reportedly killed (in some cases by being burned alive in their own houses); November 1981, with twenty-six victims; and more two times in February 1982, when over one hundred persons were killed and several houses were destroyed.[20]

The analysis of this case provides a microcosm of the *modus operandi* of the sweeping operations, making visible its socio-environmental impacts at scale of the village/community. A detailed investigation of this case therefore illuminates a broader strategy that was implemented in various villages that were targeted during the period of study, as shown in Figure 11 (page 17).

The following cartographies describe the transformation of land use patterns caused by these events, showing how the sweeping operations and scorched-earth offensives completely disrupted and reconfigured the built and natural environment upon which the Ixil forged their means of survival and cultural existence, and the relation between them.
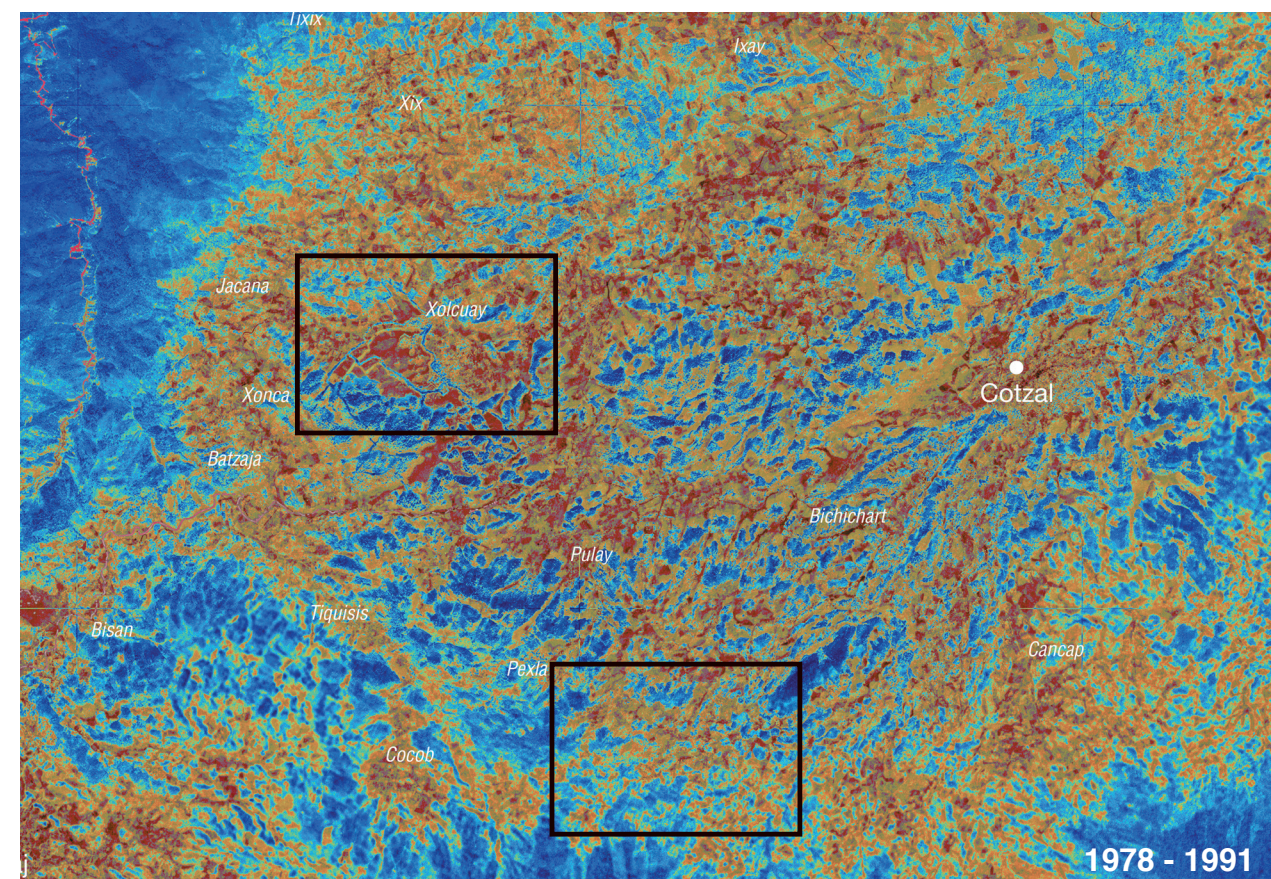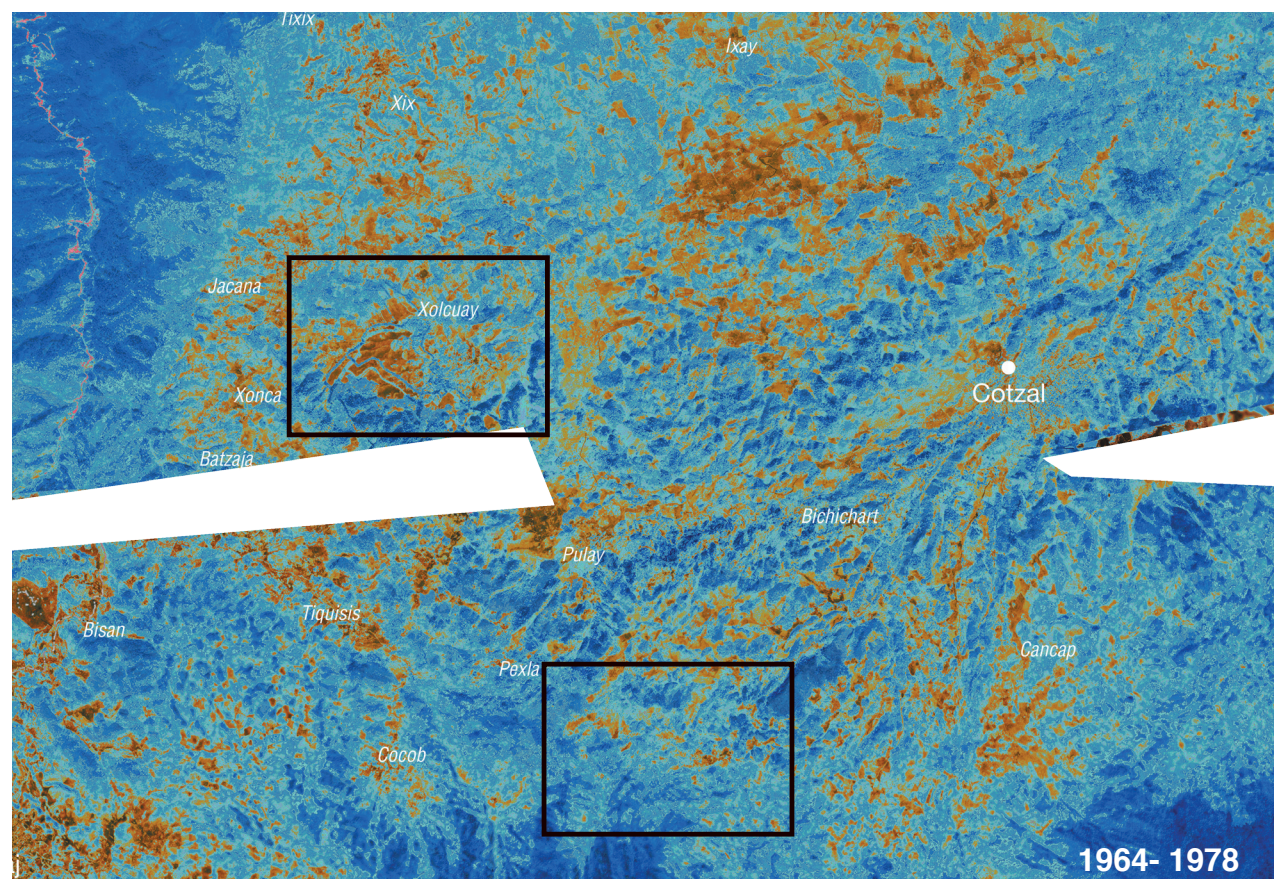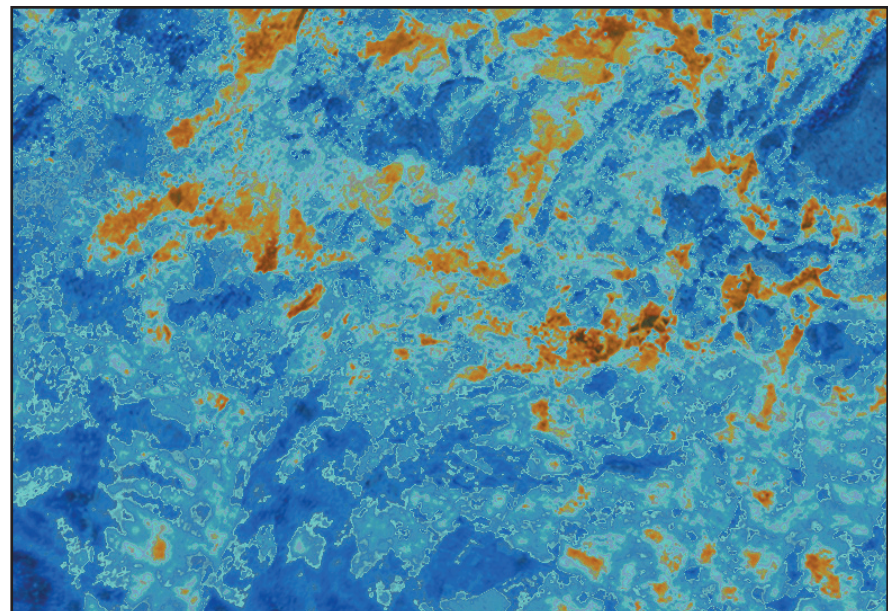
20. CEH, vol. X, cases 16705, 16707, 3318.

Fig. 15:Territorial changes within the Ixil region
This analysis shows the changes within the landscape of western Guatemalan highlands in periods of 1964-78 and 1978-1991. In both images, shades of red mark the are areas most effected by change, while shades of blue mark the areas that have mostly remained unchanged.
The black rectangles mark the study areas in the following pages where villages of Pexla and Xolcuay were located. Distinct environmental transformations can be seen in the area of Ixil triangle.

Territorial Changes within the period of 1964-78 in the area surrounding the village of Pexla
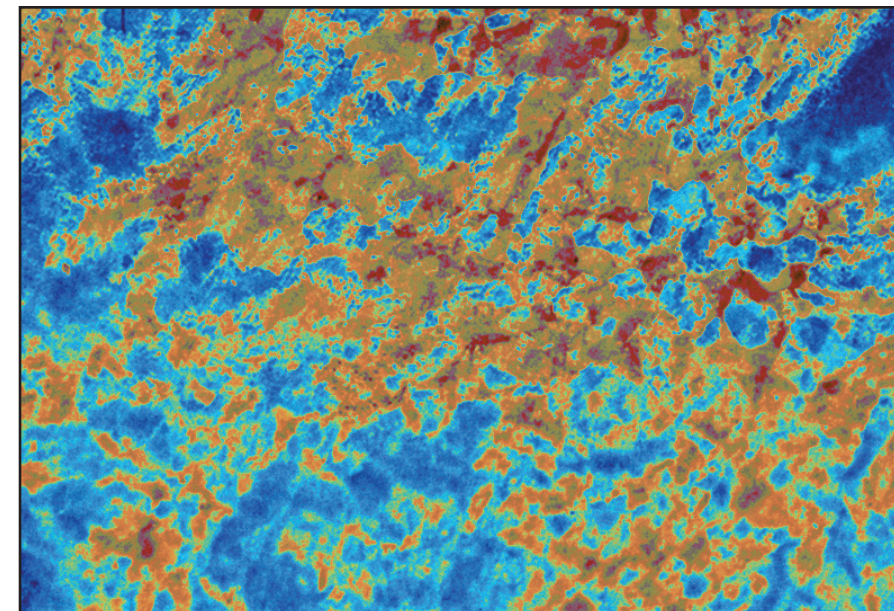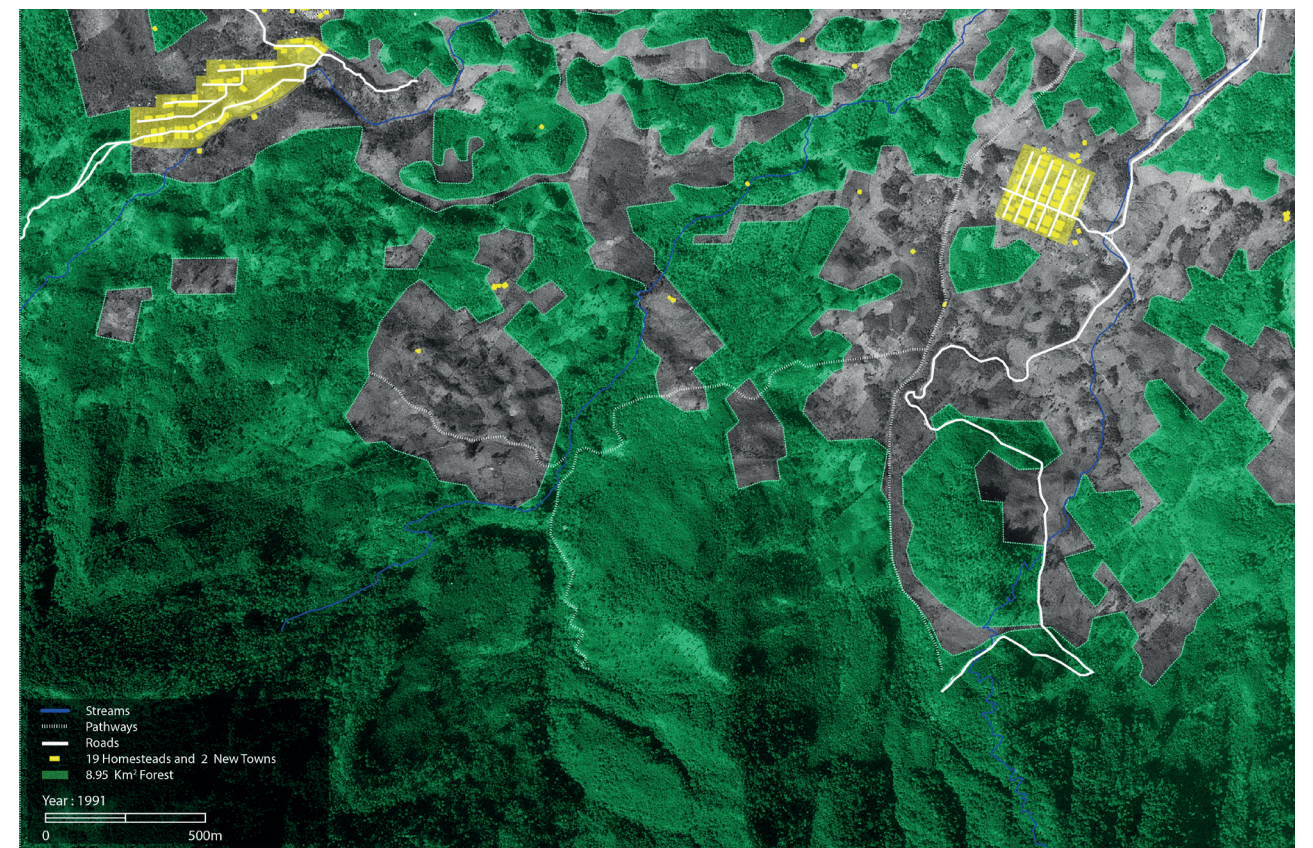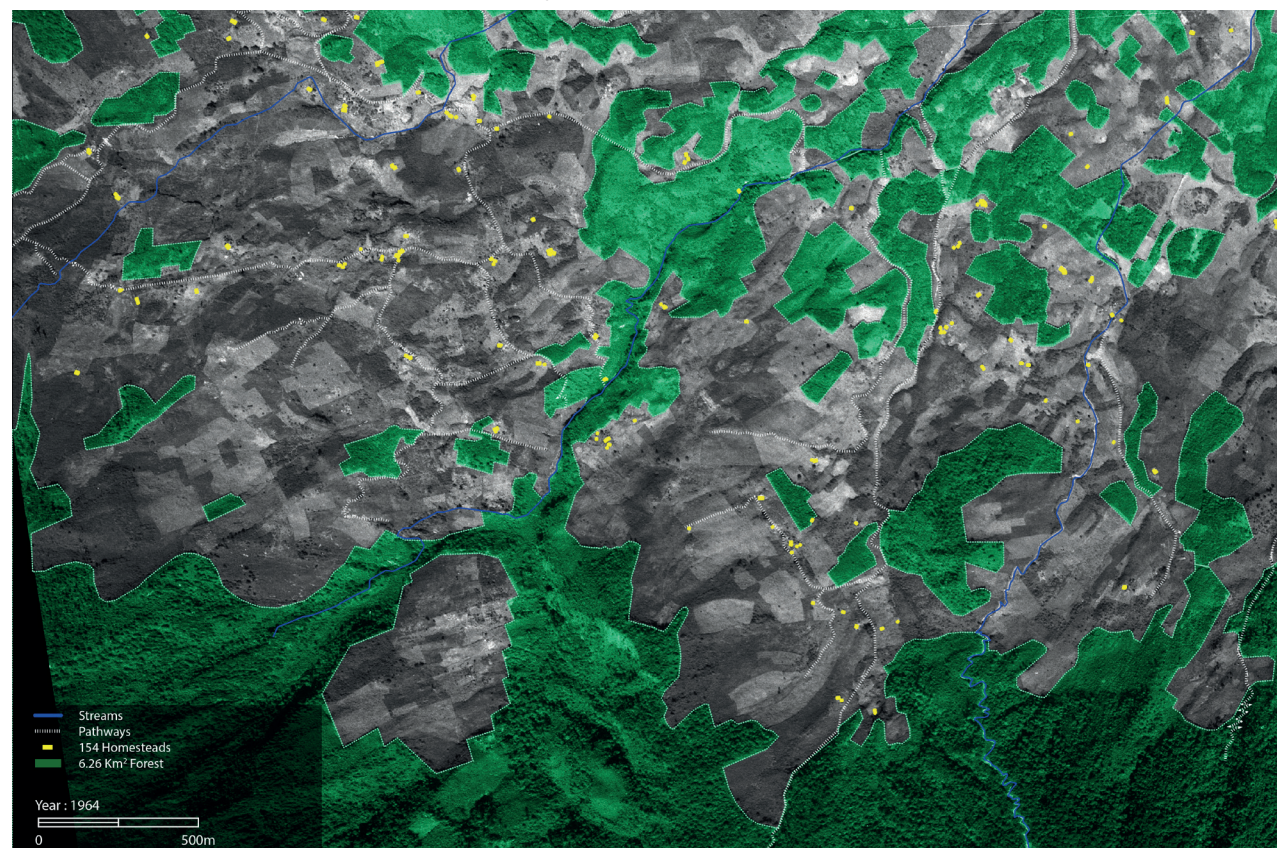

Territorial Changes within the period of 1978-91 in the area surrounding the village of Pexla

Figs. 16-17: Social and environmental analysis of the Pexla region

This analysis is drawn from aerial imagery from 1964 and 1991, prior and following the violence. In both images, the shade of Green marks the forests areas while yellow indicates the location of homesteads and new towns. Whereas many homesteads surrounded by small sustenance fields could be seen in 1964 they have been destroyed and removed by 1991 together with large chunks of forest.
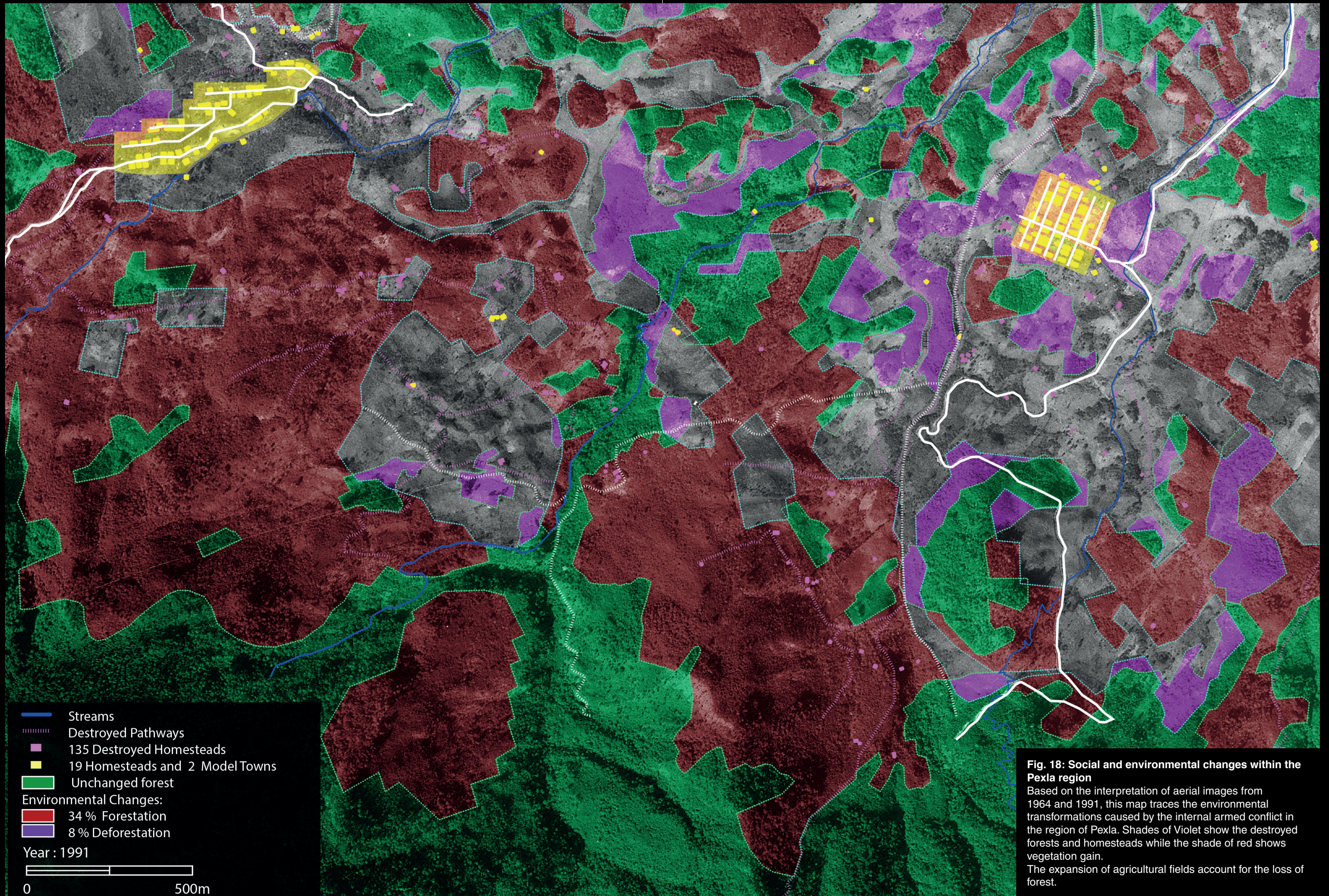

Streams
Pathways
154 Homesteads
6.26 Km² Forest

Year : 1964

0   500m

Streams
Pathways
Roads
19 Homesteads and 2 New Towns
8.95 Km² Forest

Year : 1991

0   500m

Legend:

━━━ Streams

┉┉┉ Destroyed Pathways

■ 135 Destroyed Homesteads

■ 19 Homesteads and 2 Model Towns

■ Unchanged forest

Environmental Changes:

■ 34 % Forestation

■ 8 % Deforestation

Year : 1991

0   500m

Fig. 18: Social and environmental changes within the Pexla region

Based on the interpretation of aerial images from 1964 and 1991, this map traces the environmental transformations caused by the internal armed conflict in the region of Pexla. Shades of Violet show the destroyed forests and homesteads while the shade of red shows vegetation gain.

The expansion of agricultural fields account for the loss of forest.
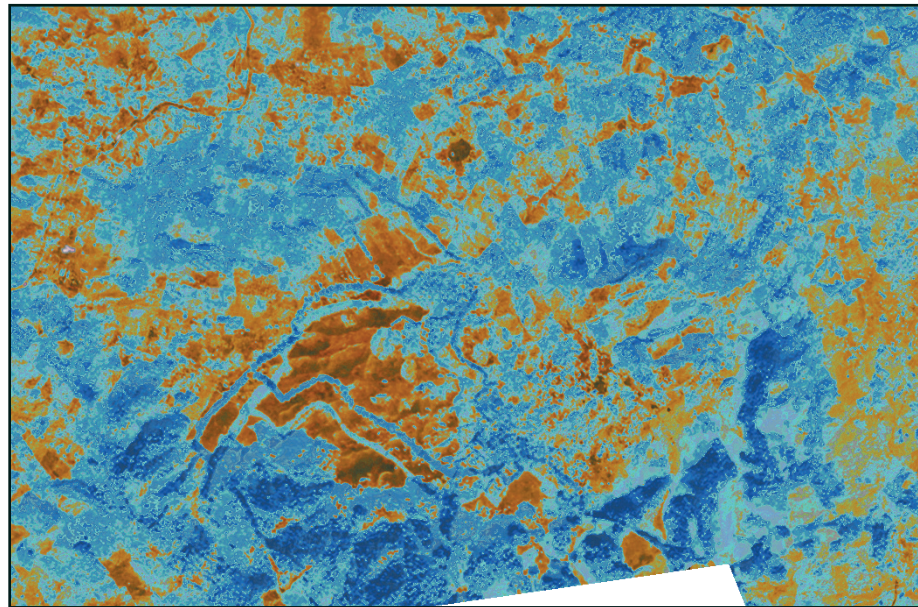
Territorial Changes within the period of 1964-78 in the area surrounding the village of Xolcuay.
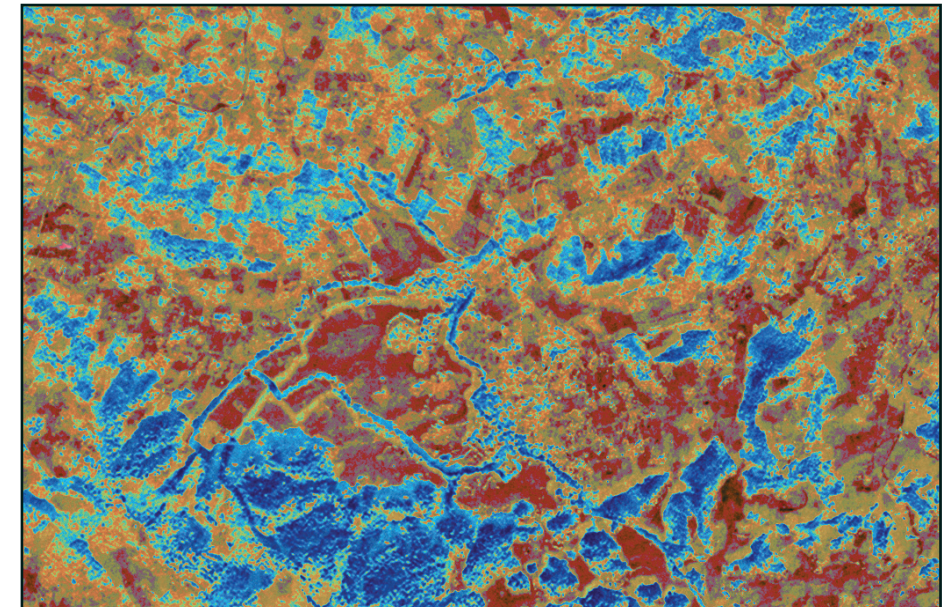
Territorial Changes within the period of 1978-91 in the area surrounding the village of Xolcuay.

Figs. 19-20: Social and environmental analysis of the Xolcuay region
This analysis is drawn from aerial imagery from 1964 and 1991, prior and following the violence. In both images, the shade of Green marks the forests areas while yellow indicates the location of homesteads and new towns. Whereas many homesteads surrounded by small sustenance fields could be seen in 1964 they have been destroyed and removed by 1991 together with large chunks of forest.

Legend:

- ━━━ Streams
- ┄┄┄ Destroyed Pathways
- ▪ 89 Destroyed Homesteads
- ▪ 37 Homesteads and 2 Model Towns
- ▪ Unchanged forest

Environmental Changes:
- ▪ 12 % Forestation
- ▪ 23 % Deforestation

Year : 1991

0 ————————— 500m
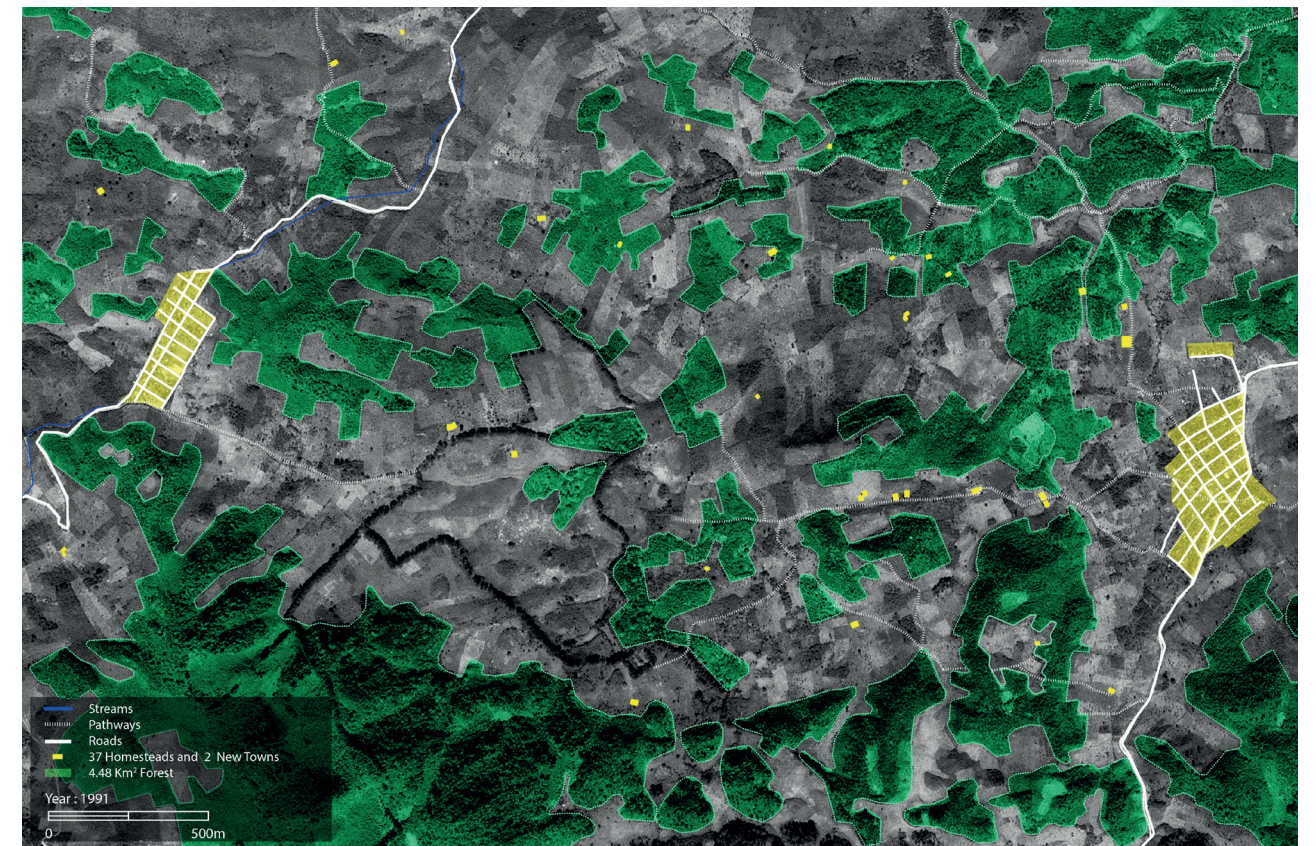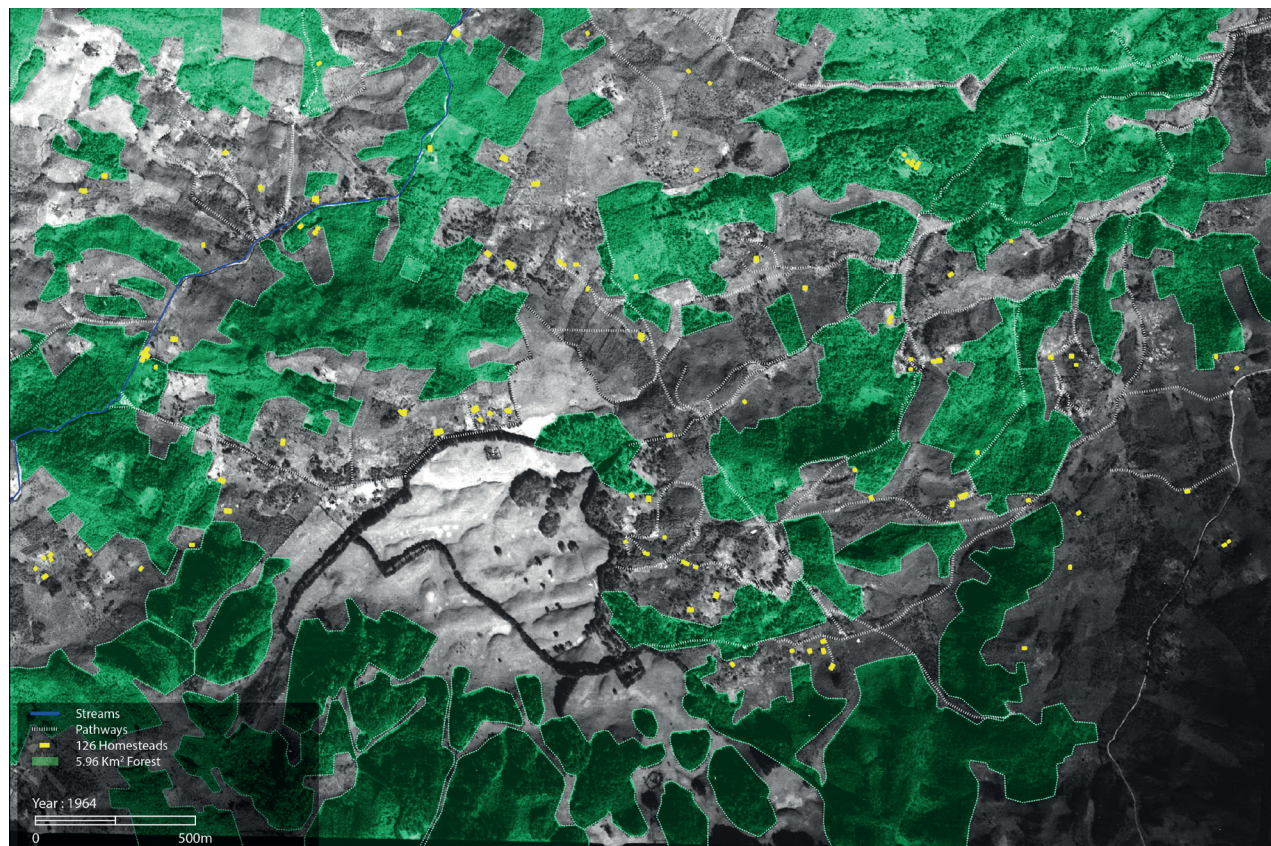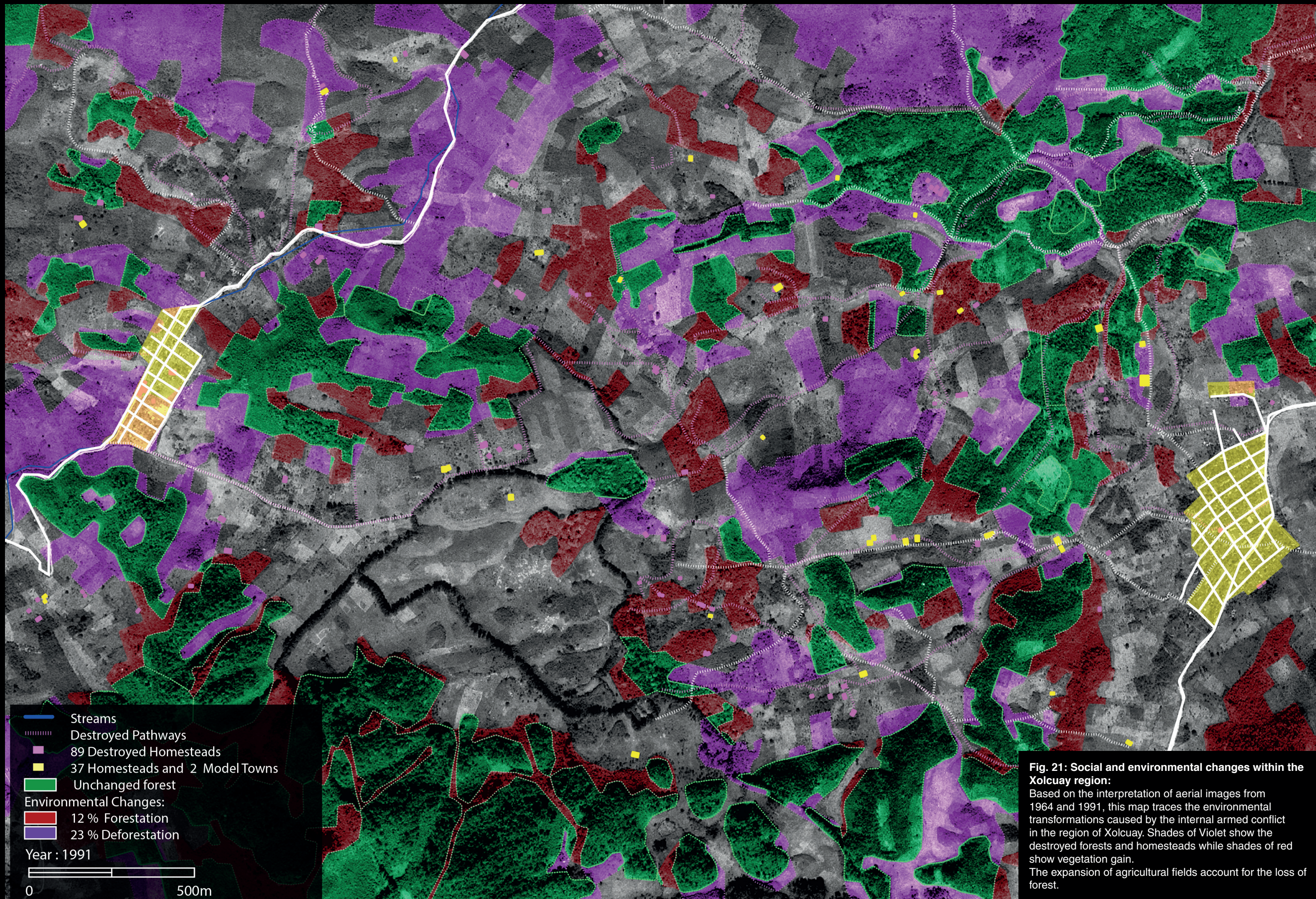
Fig. 21: Social and environmental changes within the Xolcuay region:
Based on the interpretation of aerial images from 1964 and 1991, this map traces the environmental transformations caused by the internal armed conflict in the region of Xolcuay. Shades of Violet show the destroyed forests and homesteads while shades of red show vegetation gain.
The expansion of agricultural fields account for the loss of forest.

Fig. 22: Close reading of the region where the village of Xolcuay has been located.
Below is a 1964 aerial image from the region surrounding the village of Xolcuay.
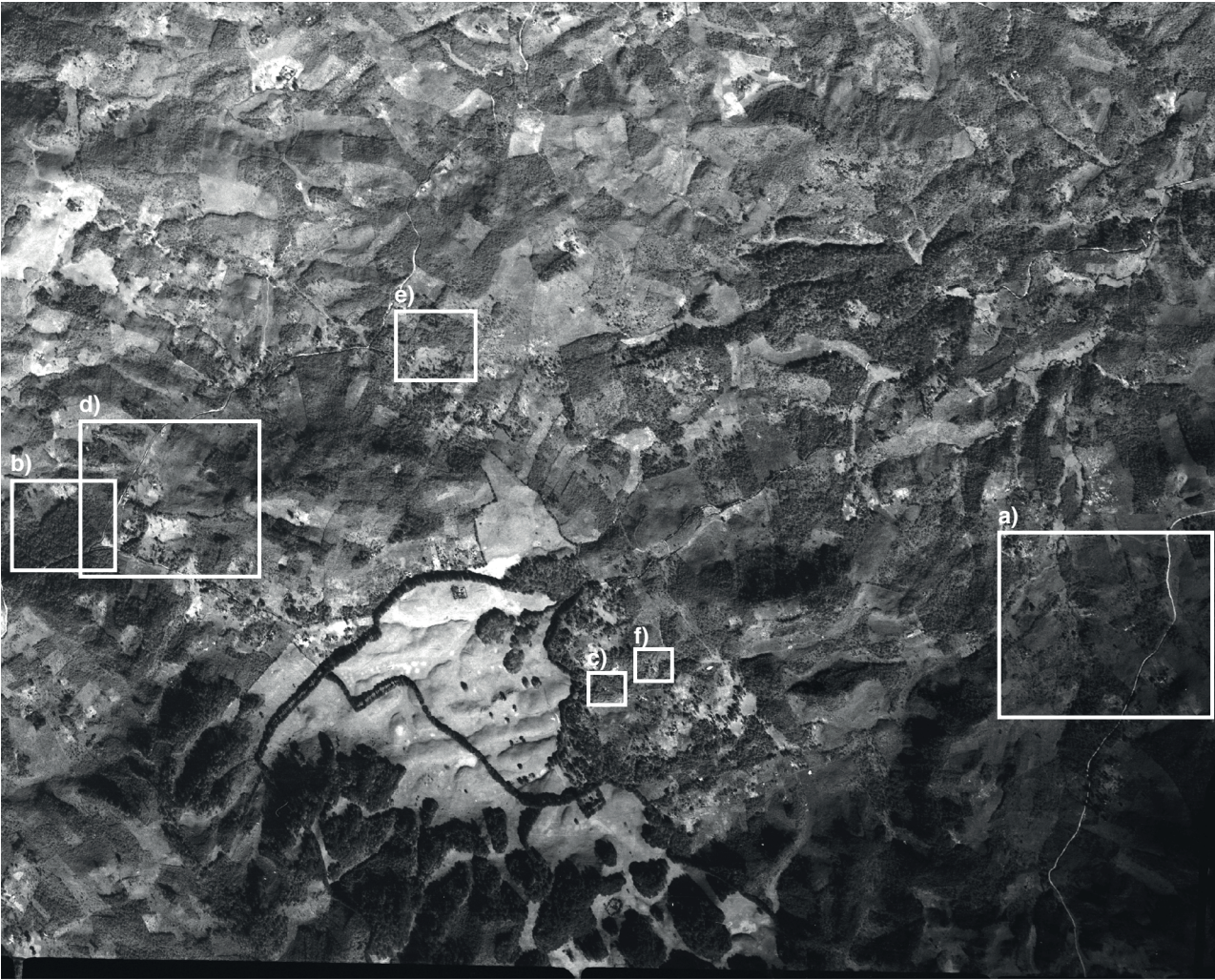
a) minor road
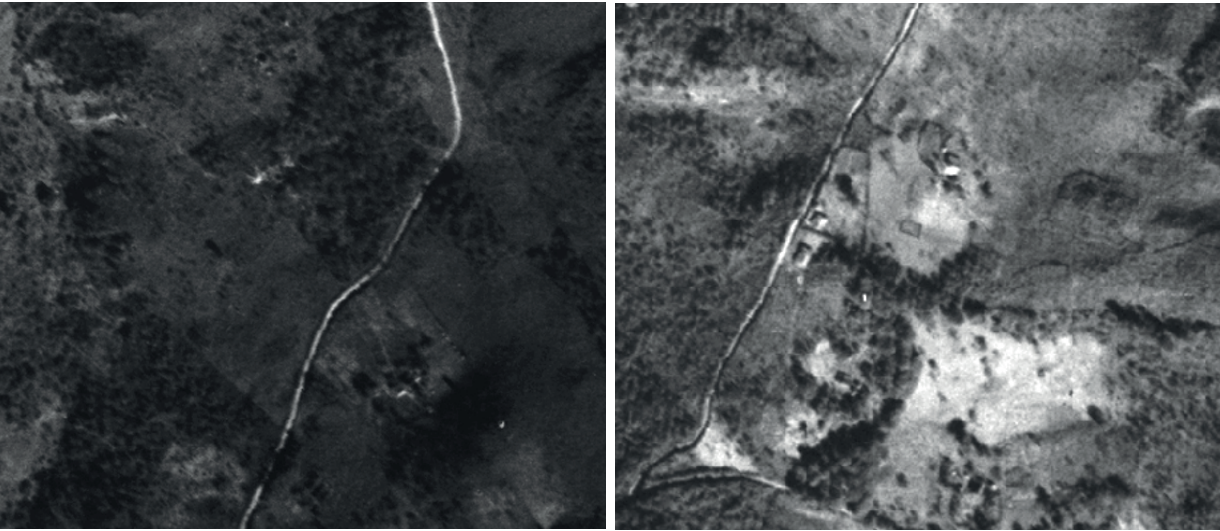
b) dense forest
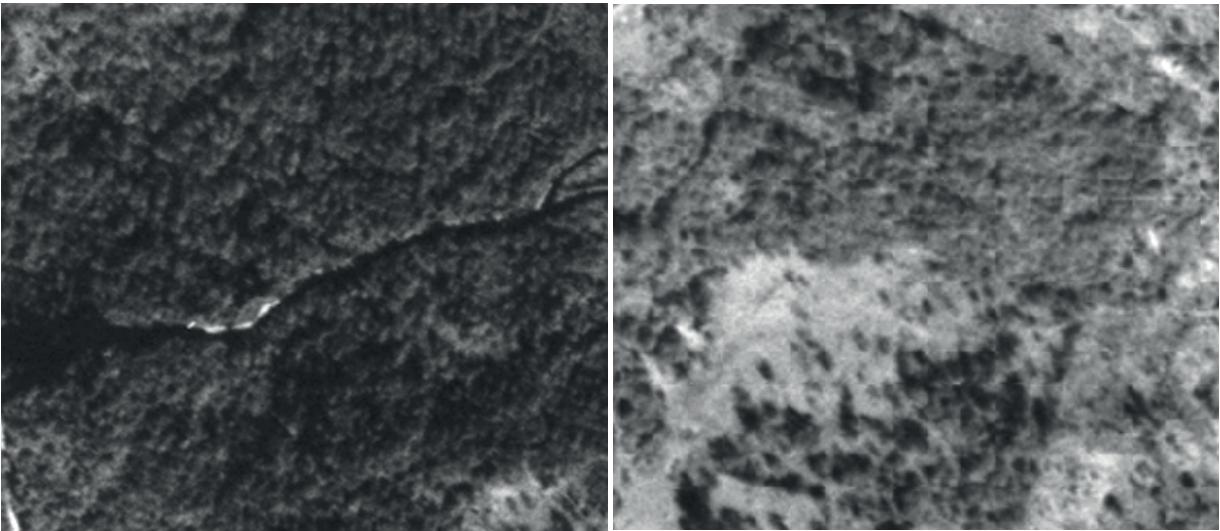
c) homestead.
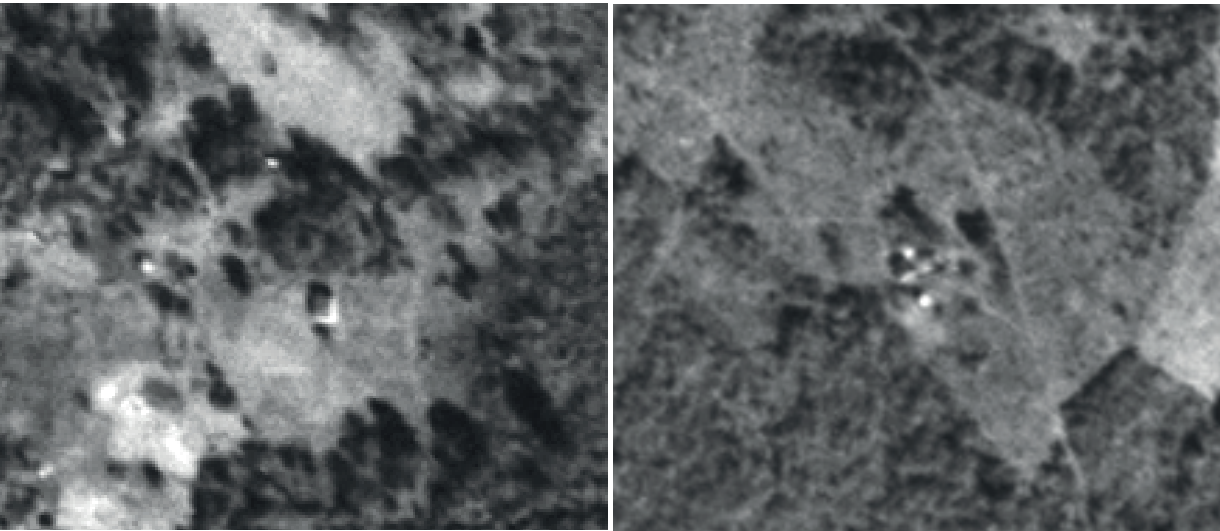
Fig. 23: Close reading of the region where the village of Xolcuay has been located.
Below is a 1991 aerial image from the region surrounding the village of Xolcuay.

a) new town

d) new town

b) new major road

e) crop field.

c) homestead.
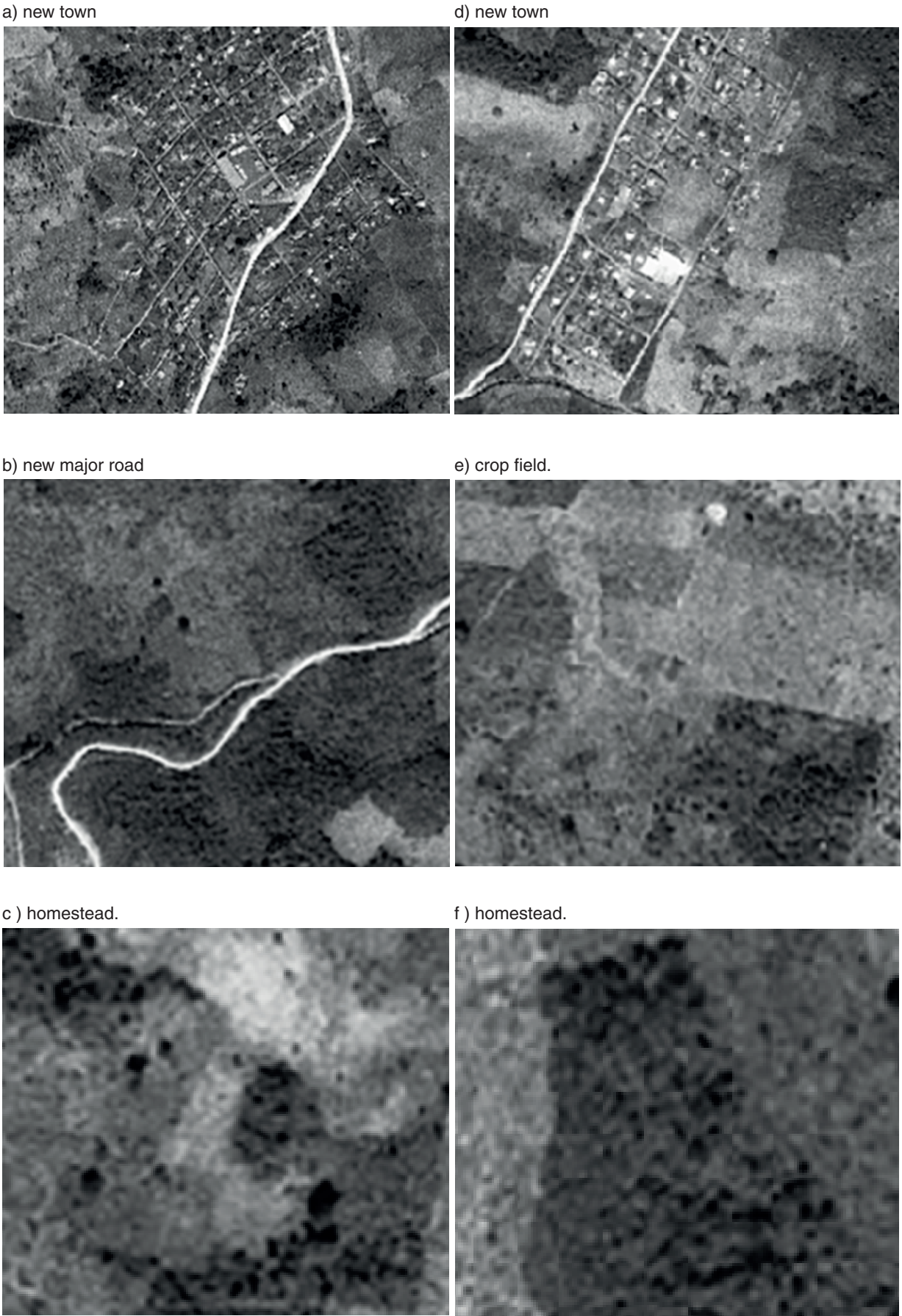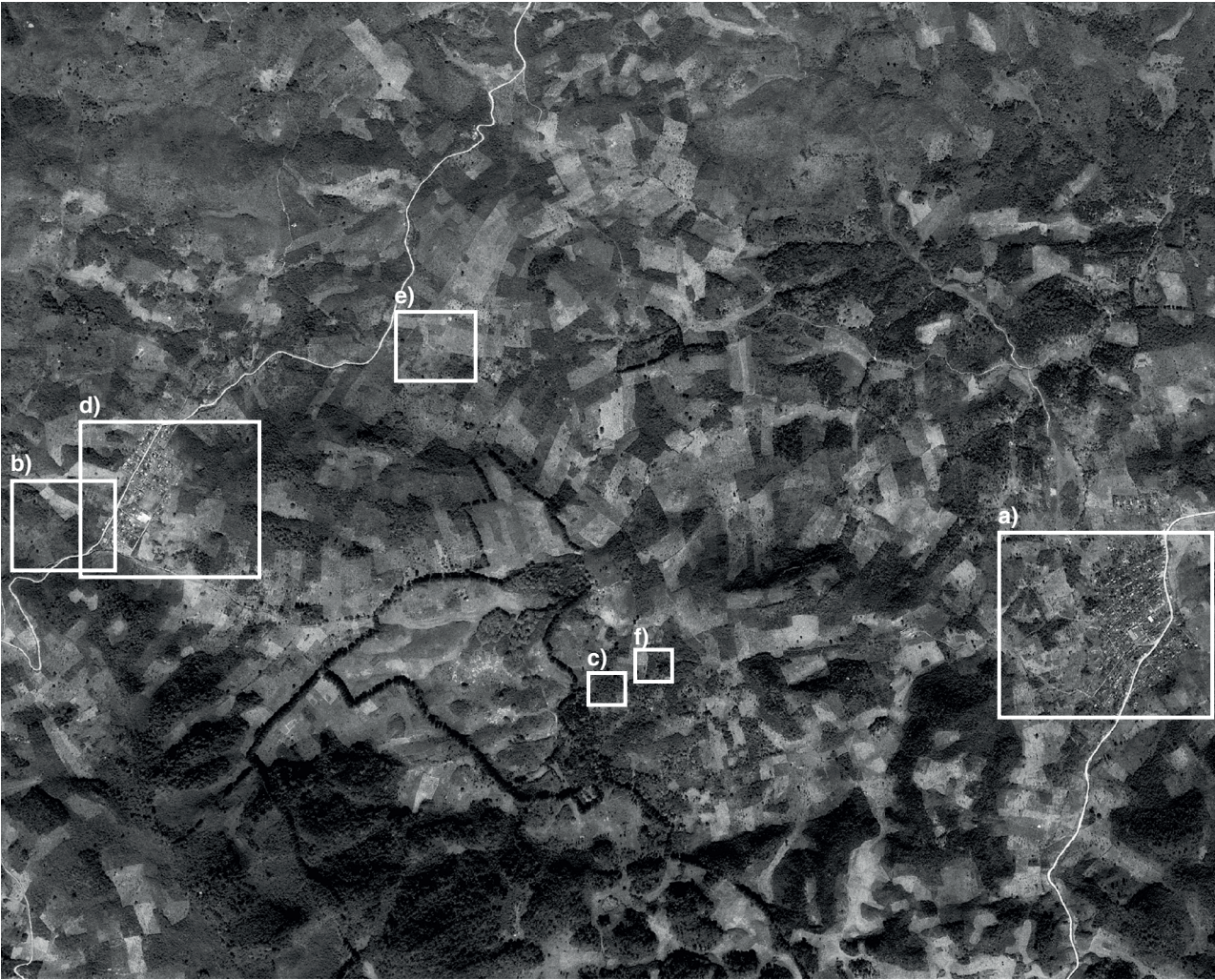
f) homestead.

Fig. 24: The following images enable a detailed understanding of the changes that have taken place within the Xolcuay region.

a) new model towns.

1964   1991
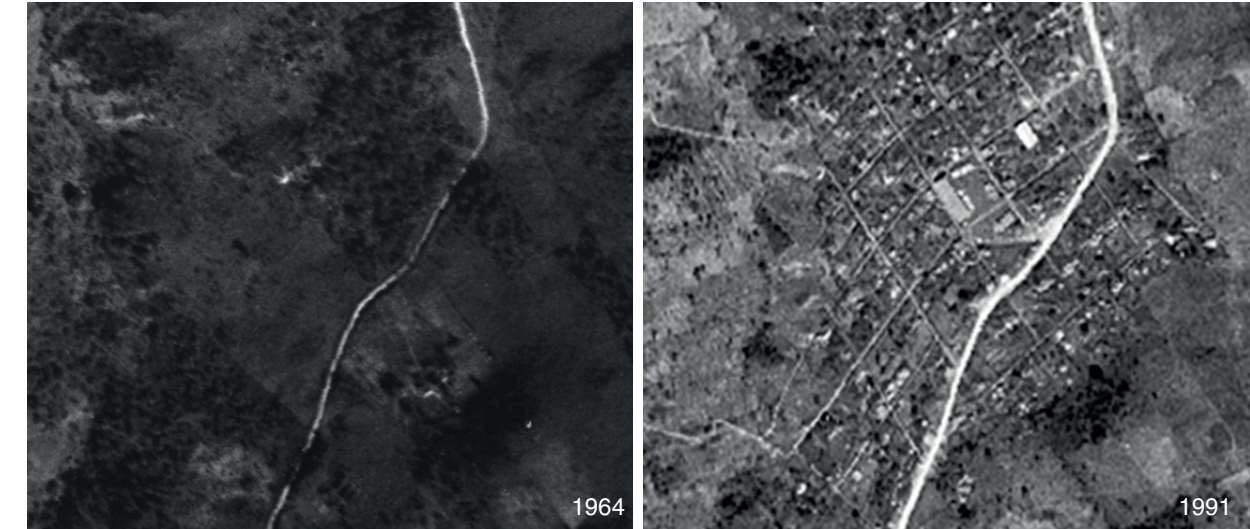
b) deforestation and construction of major roads.
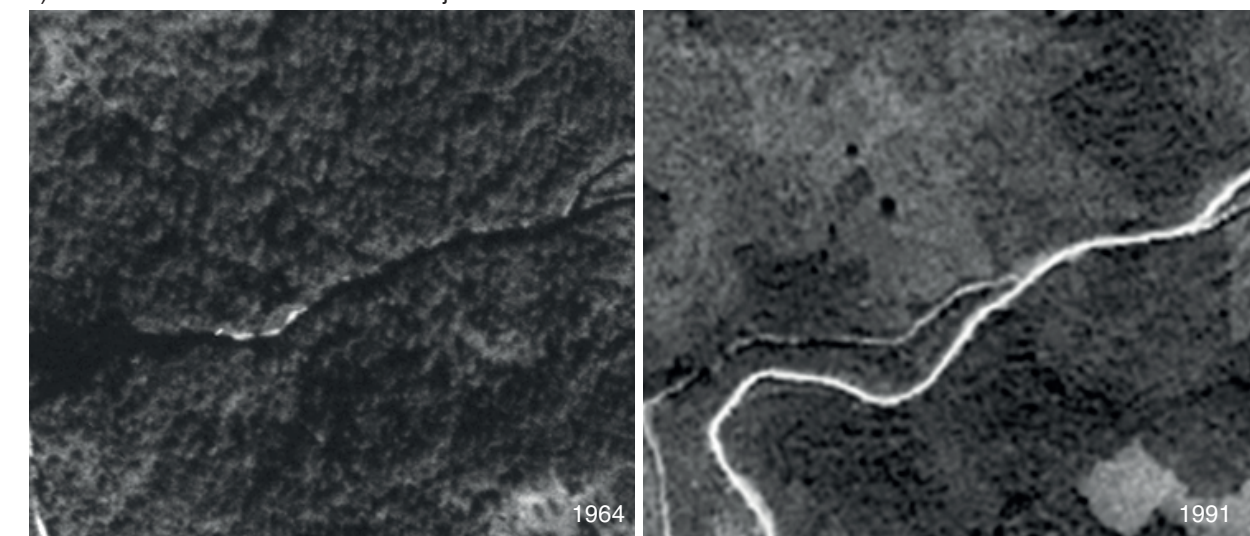
1964   1991

c) destruction of homesteads and forestation.

1964   1991

d) new model towns.

1964   1991

e) deforestation.

1964   1991
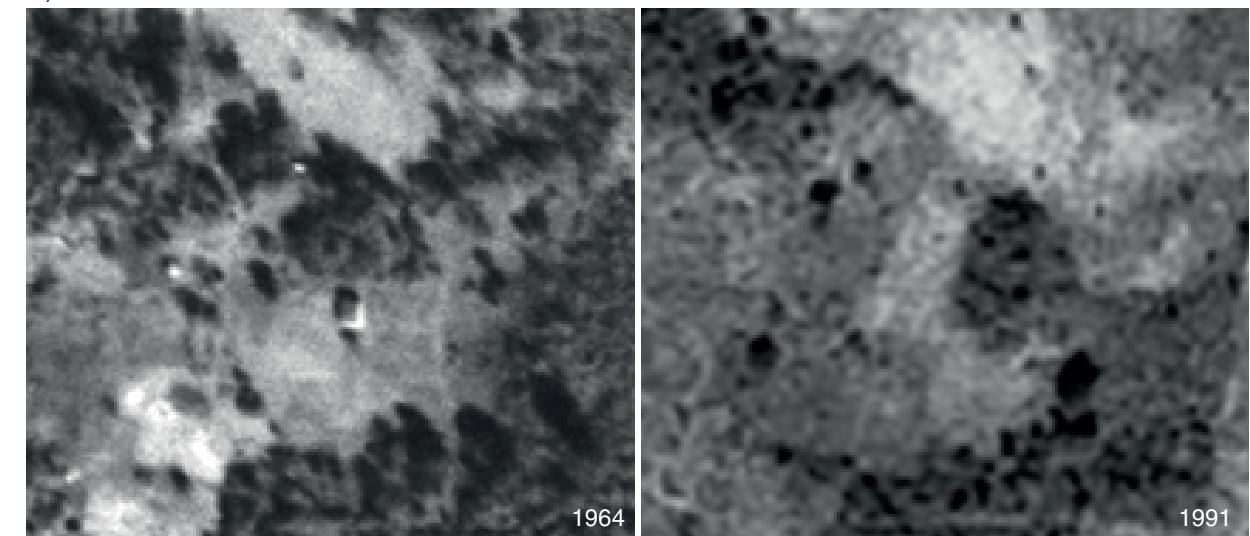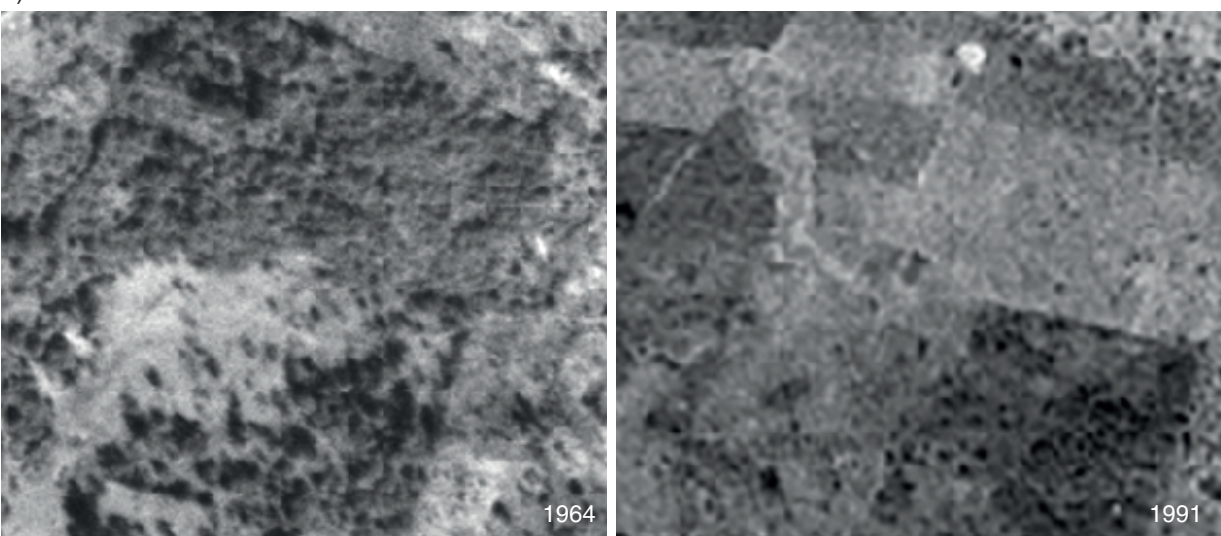
f) destruction of homesteads and forestation.

1964   1991
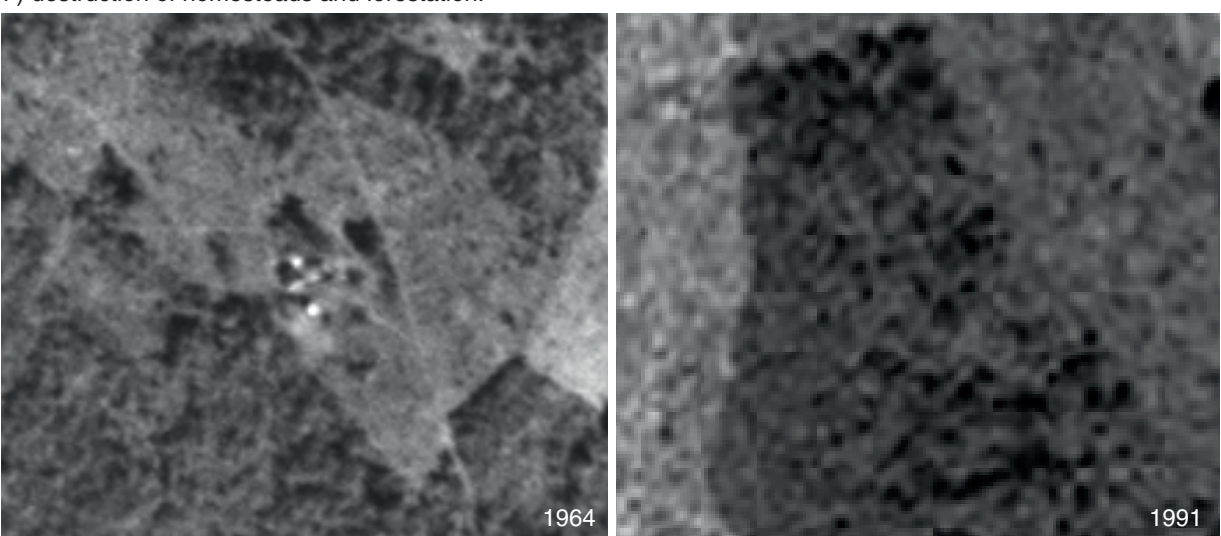
The identification and mapping of the homesteads in Pexla resulted from a combination between the remote sensing technologies described above and field work. Today, after 30 years of these events, the ruins of the houses and buildings that were destroyed are barely recognizable in the forest landscape. Because these buildings were constructed of wood and adobe, once burnt, the cloud forest accelerated their disintegration. After thirty years all that remained were small elevated earthworks, stone foundations overgrown with shrubs and sometimes completely overgrown with forests.

To identify the harder surfaces of foundations our team had to probe the ground, as if it was a brail script. When we found such foundations the plants had to be cleared up with a machete, before photographing and sometimes measuring the remains. To identify the areas within which building remains were located, our guides from the village of Pexla Grande taught us to follow the plants. Coming across fruit trees like avocado, papaya, and peach, or encountering wild maize, signals the possible presence of ruined homestead or village.

Fig. 25: Taken over by wild grass, this partially cleared plot of land was formerly occupied by a wooden house. on the left side of the image an avocado tree can be identified, a signifier of the plot's former occupants. Village of Xolcuay, Ixil territory, 2013.

A house is about 10 'varas' long.

A large house had a measurement of 10 by 8, and in it a hall of 2 'varas' in length.

Then the corridor was here.

Fig. 26: Trekking in the mountains around Pexla Grande in search for traces of building foundations. Still from Paulo Tavares and Eyal Weizman, dirs.
The Mineral Geology of Genocide (2012), 47 mins.

Fig. 27: A stone from a house destroyed and burned down during the massacre of the village of Pexla Grande in 1982.

Fig. 28: Looking for building foundations under a layer of vegetation near the village of Pexla Grande.

Fig. 29: The foundations of a house overgrown by vegetation near the village of Pexla Grande.

Fig. 30: Looking for building foundations under a layer of vegetation near the village of Pexla Grande.

Fig. 31: Location of Homesteads in Pexla identified during field work.

Casa 4
Familia de don Juan López.

Alcaldía indígena
Escuela Primaria
Iglesia Católica

Casa 3
Familia de don Juan López.
Casa 2
Familia de Diego.

Casa 4
Familia de Juan Ramírez Cobo

Casa 5
Familia de Gerónimo López.
Casa 8
Familia de Mariano Ramírez.

Casa 6
Familia de Andrés Santiago.

Casa 9
Familia de Juan Brito.

Casa 7
Familia de Pedro Brito.

Casa 10
Familia de Miguel Bernal.

Casa 11
Familia de Antonio Bernal

0 100 200 400 m

Pexla.Escuela Primaria.

Pexla. Casa 1. Juan Ramirez Cobo Family.

Pexla. Casa 2. Diego Family.

Pexla. Casa 3. Juan López Family. Remains of a *temascal* is identified.

Pexla. Casa 6. Andrés Santiago Family. Forest has taken the former housing plot, which today is crossed by a vicinal road.

Pexla. Casa 4. Juan Lópe Family. Rubbles of stones that made a *tenamaz*, the traditional fireplace cooking of Mayan families, is identified.

Pexla. Casa 5. Gerónimo López Family, son of hijo de Juan López. Remains of *temascal* are observed.

Pexla. Casa 7. Pedro Britto Family. Remains of grind stones are identified.

Pexla. Casa 7. Stone Grind.

Pexla. Casa 8. Mariano Ramírez Family. Remains of *temascal* and grind stones are identified.

Pexla. Casa 9. Juan Brito Family. Remains of *temascal* and grind stones are identified.

Pexla. Casa 9.

Pexla. Casa 10. Miguel Bernal Family.

Pexla. Casa 11. Antonio Bernal Family.

Fig. 32: Location of Homesteads in Xolcuay identified during field work.

Xolcuay. Alcaldía Auxiliar.

Xolcuay. Iglesia Católica.

Xolcuay. Escuela Primaria.

Xolcuay. Casa 1.

Xolcuay. Casa 2.

Xolcuay. Casa 3.

Xolcuay. Casa 4.

Xolcuay. Casa 4-14.

Xolcuay. Casa 4-14.

Xolcuay. Casa 15.

Xolcuay. Casa 16.

Xolcuay. Casa 17.

Xolcuay. Casa 18.

Xolcuay. Casa 19.

Xolcuay. Casa 20.

Xolcuay. Casa 21.

Xolcuay. Casa 22.

Xolcuay. Casa 23.

Xolcuay. Casa 24.

Xolcuay. Casa 25.

Xolcuay. Casa 26.

Xolcuay. Casa 27.

Xolcuay. Casa 28.

Xolcuay. Casa 29.

Xolcuay. Casa 30.

1979

Vegetation cover | Heavy / Light | Road built prior to development poles program | Road built within the development poles program | Road built prior to development poles program | New settlement *Total: 7 new settlements* | Model village complet by 1986 | Community destroyed between 1980 and 1984

1986

Vegetation cover | Heavy / Light | Road built prior to development poles program | Road built within the development poles program | Road built prior to development poles program | New settlement *Total: 7 new settlements* | Model village complet by 1986 | Community destroyed between 1980 and 1984

Fig. 33: "Scorched Earth":
Normalized Difference Vegetation Index (NDVI) analysis of the environmental transformation of the Ixil region, 1979-1986.

page 60- Fig. 34: Normalized Difference Vegetation Index (NDVI) analysis of the environmental transformation of the Ixil region, 1979-1986. On top of this transformed landscape, we plotted the location of indigenous villages, poles of developments, model villages, new roads, military bases, military manoeuvres, places of massacres and the paths of refugee displacement.
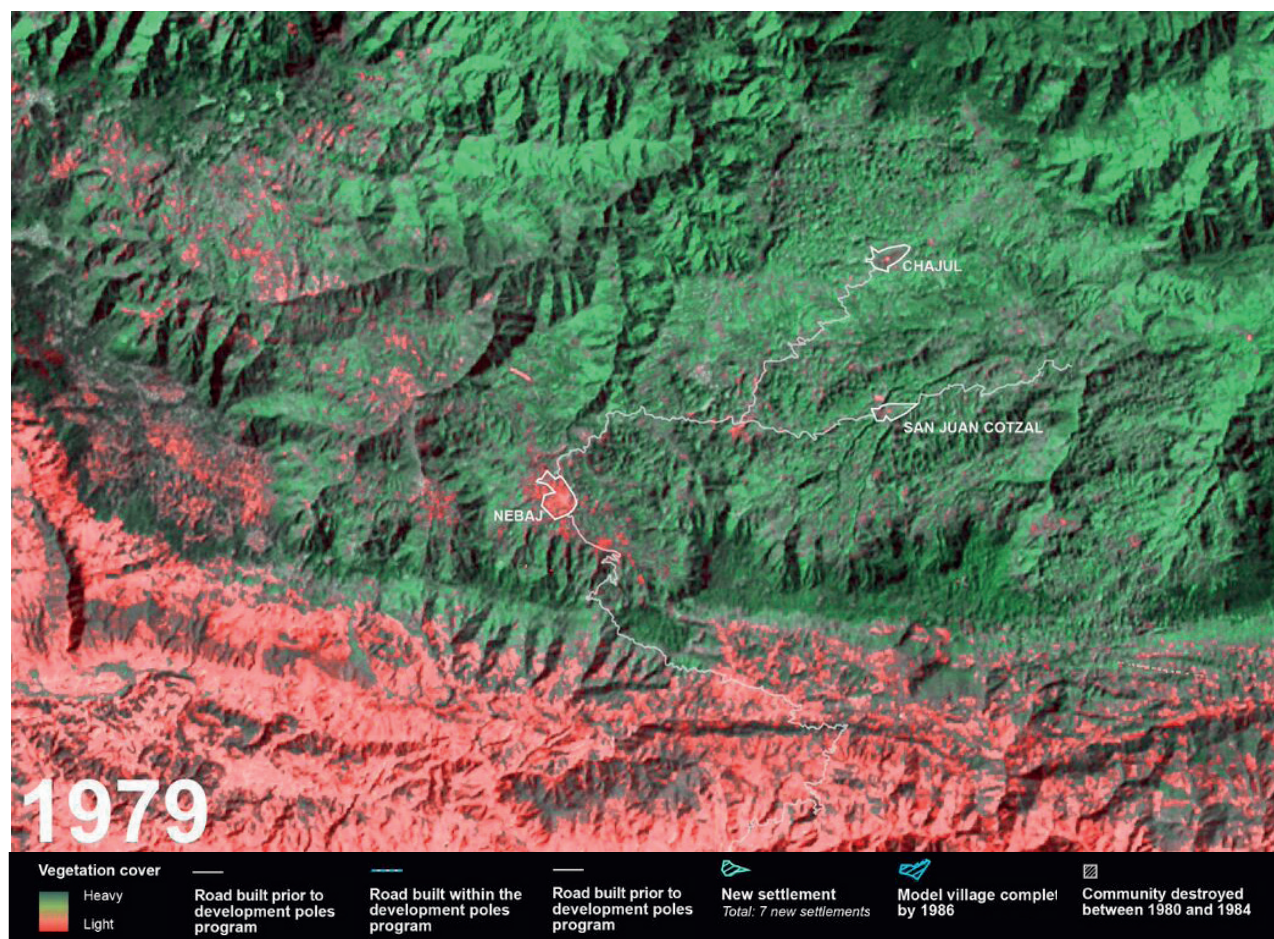
ENVIRONMENTAL TRANSFORMATION

In order to map and analyse the relations between state-violence and the transformation of the built and natural environment in the Ixil territory, the following mappings cross-reference the dataset on massacres, destroyed villages, built infrastructures and new settlements presented above with satellite image analysis.

They were designed with a mapping technique called NDVI, a graphical indicator that is used to visualize and interpret transformations in vegetation cover. Working with the superimposition of two or more satellite images, the NDVI data can demonstrate changes in the natural environment between the dates on which each image was captured. Each pixel on the image has a colour on a scale that indicates whether the area within the pixel lost or gained vegetation cover. In this way, changing patterns of land-use over time are rendered visible.

To assess vegetation cover change in the Ixil Triangle area, we used two satellite images: a "before" image captured in 1979, and an "after" image captured in 1986.[21] They were chosen because both were taken at roughly the same time of year, which offsets variation due to seasonal change. This period brackets the intensification of the counterinsurgency in the early 1980s and its consolidation through the "development" projects of model villages.

Calculating the difference between the 1979 and 1986 indices, it is possible to identify that large territories, around the Ixil area of inhabitation and the routes connecting them, lost considerable amounts of vegetation cover (red) in this period. In other areas, mainly scattered around the valleys of remote mountains, the opposite pattern is visible, as vegetation (green) rebounded.

Cross-referencing the different types of data and comparing them, a high degree of correlations between otherwise disparate phenomena becomes visible. The areas marked on the NDVI as deforested (red) overlap with two entangled interventions: (1) places where massacres took place and villages were destroyed; (2) places where model villages and military bases were constructed, and the main roads connecting them. The regions marked as gaining forest cover (green) probably indicate areas formerly occupied by small farms that were abandoned and overtaken by the wild, thus registering sites where displacement occurred. By overlaying on the NDVI data the paths of the dislocation of the refugee population, it is also possible to observe that it was largely from areas suffering extreme vegetation loss that survivors arrived in the concentration areas and to the model villages.

The analysis of this cartography demonstrates that the transformation of the "natural" (the forest), the "built" (villages and fields), and state-violence went hand in hand.

21. The "before" image was taken by NASA's earth observation satellite Landsat 3 on February 6, 1979 (at a resolution of 60 squared meters per pixel) and the "after" image was captured by the Landsat 5 satellite on March 13, 1986 (at 30 squared meters per pixel).
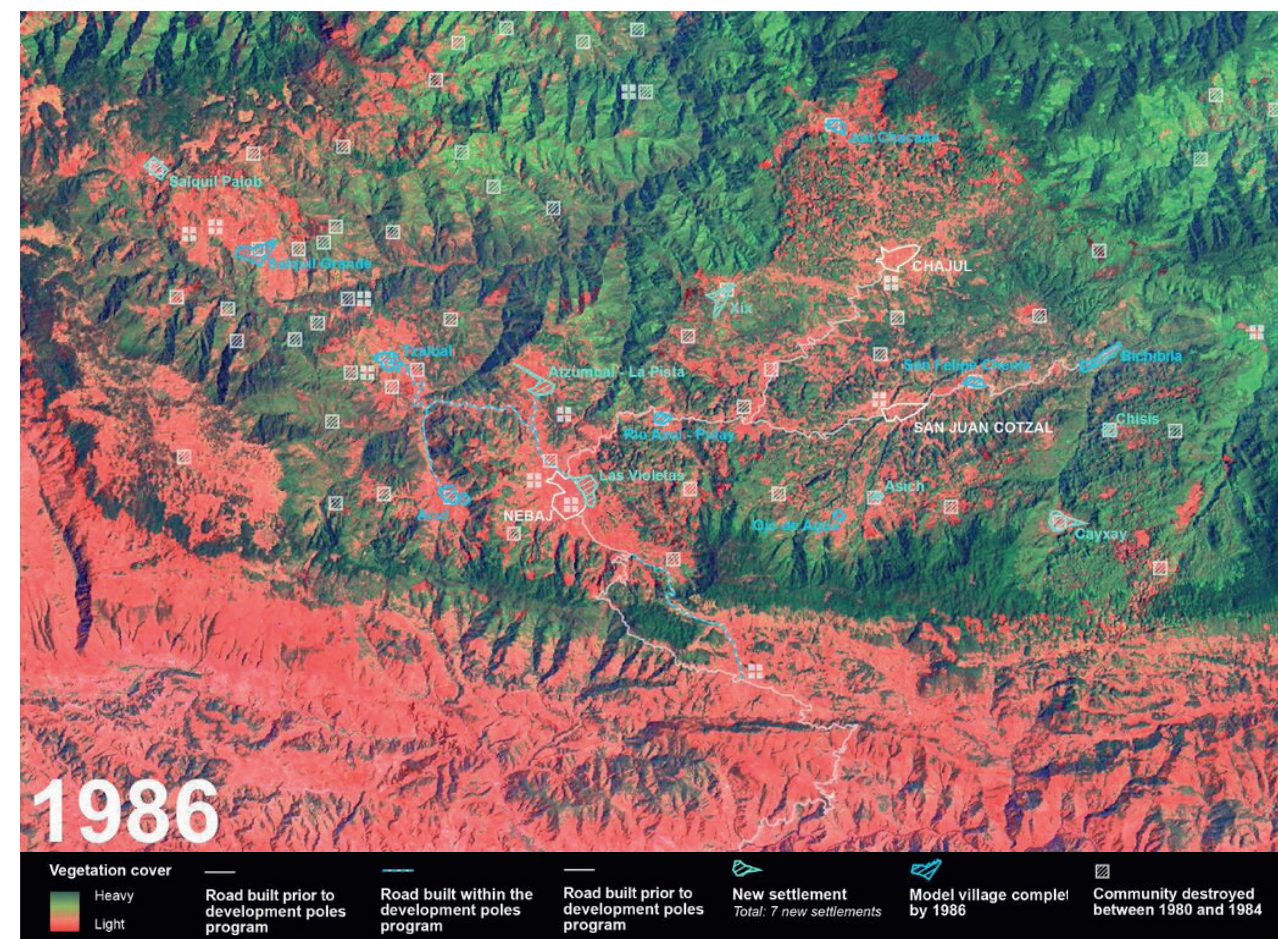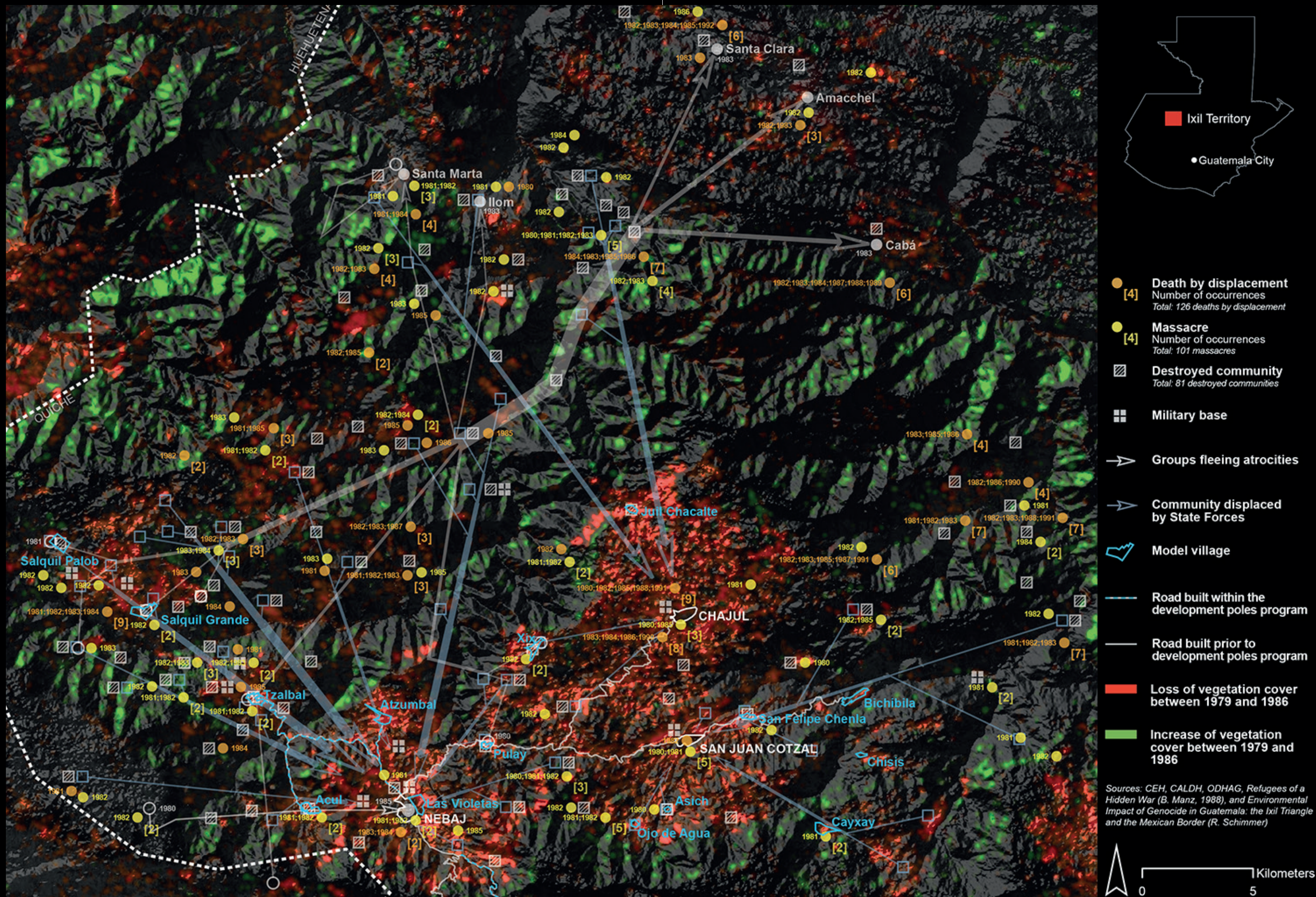
Death by displacement
Number of occurrences
Total: 126 deaths by displacement

Massacre
Number of occurrences
Total: 101 massacres

Destroyed community
Total: 81 destroyed communities

Military base

Groups fleeing atrocities

Community displaced
by State Forces

Model village

Road built within the
development poles program

Road built prior to
development poles program

Loss of vegetation cover
between 1979 and 1986

Increase of vegetation
cover between 1979 and
1986

*Sources: CEH, CALDH, ODHAG, Refugees of a
Hidden War (B. Manz, 1988), and Environmental
Impact of Genocide in Guatemala: the Ixil Triangle
and the Mexican Border (R. Schimmer)*

Ixil Territory

Guatemala City

Kilometers

0   5

CONCLUSION: ENVIRONMENTAL VIOLENCE AND GENOCIDE

During the early 1980s, the counterinsurgency war was responsible to cause a complete disruption in the traditional modes of inhabitation of the Ixil people and their ways of life, severing the ecological and cultural ties that attached indigenous communities to their lands. This violent process started with the sweeping operations launched by the government of Lucas García (1978-1982), intensified in the government of Ríos Montt (1982-1983), and consolidated with the institutionalization of the model villages project in the government of Mejía Victores (1983 – 1986).

As the spatial analysis in this report demonstrates, together with the torture and massacres of men, women and children, the military introduced a series of strategies of territorial and population control whose objective was the complete transformation of the environment in which the Ixil lived. This implied the destruction not only of thousands of civilians, but also of entire landscape that supported the ways of life of Ixil communities, their culture and forms of social organization.

Such destruction was the product of forms of "environmental violence". Environmental violence refers to the large-scale destruction or degradation of the built and natural environment and the relation between them. This report invokes this concept in order to describe the multiple ways in which forced disappearances and massacres, deforestation and displacements, destruction of indigenous villages and their replacement by state-controlled settlements, were entangled in their employment by the Guatemalan State to produce deep socio-spatial transformations in the Ixil territory.

"Environmental violence" destroys both the conditions that sustain life, and also the conditions that enable *forms* of life. The former refers to biophysical destruction, and is an indirect form of killing that operates by the degrading of environmental conditions to affect the quality of land, water, hygiene, nutrition, and health care by restricting trade and access to life-sustaining infrastructure. The latter refers to the destruction of a culture, and is related to modes of association, worship, agriculture, and economy. It is exercised by attempting to affect the political subjectivity of native people and give rise to populations conducive to state control.

In the case of the sweeping operations and scorched-earth offensives deployed in the Ixil territory, both dimensions of violence were intimately connected. Since the Ixil culture is grounded on a particular mode of relating to the land, as manifested in the singular patterns of inhabitation that characterized the Ixil territory before the violence, the re-organization of this socio-geography was conducive to cultural extermination. The objectives of such forms of "environmental violence"—performed by the twin acts of destruction and reconstruction (the combination between scorched-earth campaigns and model village development)—were not only military and strategic, but also social, economic and political, aiming at generating an area that would be easier for state control.

This report demonstrates not only a correlation between state-violence and environmental change, but also how the environment itself — buildings, infrastructures, forests and fields — was mobilized as a means of perpetrating violence against an entire population. By combining warfare with the reorganization of the landscape, economy, and ways of life, the Guatemalan State set out to break the material and social bonds between communities and their lands. Consequentially, even when this strategy was framed by the positive discourse of "development", it aimed at destroying the basis of the existence of the Ixil people as a distinctive people and culture, and therefore might be accounted, as the CEH concluded, for incurring in "acts of genocide inspired by a strategic determination that was also genocidal in nature".[22]

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22. CEH, paragraph 3357

The Ixil people were subjected to a genocidal politics not only because they were considered "subversive" and accused of participating in or aiding the guerrilla. But also, and foremost, because their ways of life and modes of inhabitation were regarded as a threat to national security. This led to dramatic impacts in the culture of the Ixil people and their social and natural environment, undermining the basis of their survival as a distinct and unique culture. Given the violent transformation in their modes of life and inhabitation, the right to historical truth, justice and memory passes through the rights of the Ixil to the reparation of their lands and environment, as well as requires the establishment of concrete policies directed at reinstalling and protecting their material and symbolic culture.

AUTHORS

Forensic Architecture: Paulo Tavares, Eyal Weizman
With Samaneh Moafi, Mayah Cueva Franco, Hannah Meszaros Martin, Daniel Fernández Pascual. Parts of this report are based on an earlier collaboration with Situ Research.