

# Rural Development and Habitat Changes in Ifigha (Algeria)

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## Abstract

The Kabyle vernacular housing is losing both recognition and value and reaches a point to give way to the new residential practices that seem to have little or no link with the aforementioned traditional architecture. This study explores the effects of the urbanization practices and their inappropriateness to the mountainous area of Kabylia. The objective is to grasp the changes in the modes of housing in the region, taking as a case study the Ifigha communes. The analysis of the development of the village spaces and its effects on the vernacular architecture, will give insights to better understand the different types and the morphological and functional aspects of these ongoing changes. A broad observation framework combining between the typo-morphological and the comparative approach was conducted. The results show that the *axxam* (traditional house) and the villages have evolved progressively in a series of rhythmic densification and expansion carried out by the inhabitants themselves, either inside or outside the original core. As the houses diverge from the traditional core structure, the similarities with the *axxam* correspondingly fade. Not only the forms and the uses have changed, but also did the relationships with the landscape, the street and even the family. It may be concluded that the *axxam* has undergone transformation, abandonment, and demolition, to make way for new houses that lack both value and identity. This research demonstrates the lack of interest in the preservation of this rural architectural heritage that is in danger of disappearing completely.

**Key words:** Inhabitant construction practices, Kabyle villages, Rural landscape, Urbanization, Vernacular architecture

## INTRODUCTION

Each territory with a cultural matrix is in fact a cultural landscape (Bell, 2012), thus, we consider the landscape of the Kabyle village which is witnessing many changes due to the dynamism of the social life affecting the vernacular forms of the traditional houses. Today, this rural area is undergoing urbanization as confirmed by several authors (Côte, 2008; Kaci, 2000; Zoreli, n.d). In fact, the initial hamlet organisation is not only disrupted, but it is wide spreading along the winding mountain roads, linking together other territorial entities. The new buildings contrast with the uniqueness of the *axxam*[1] as symbols of unity and social equity. Beside the fact, that they lack harmony and unity, they also reject historical precedents.

This article draws an objective and critical observation on the traditional village transformation and advocates a cultural anchoring to both the law governing mountains development, and the patrimonialization of both the landscape and the vernacular habitat. This research explores the evolution process of the Ifigha village's space and identifies the transformational typologies of the built environment. The evolution process of both the village space and the vernacular architecture are addressed through the following questions: how did space develop in this territory? What are the repercussions on domestic architecture? And what are the morphological and functional aspects of these changes? Does this current state of transformation call into question the naming of the kabyle settlements as villages? Are the relationships between the unifying group and the socio-political regulator, as strong as before? Or is it a progressive dissociation from the old social organisation?

## TOOLS AND METHODOLOGY

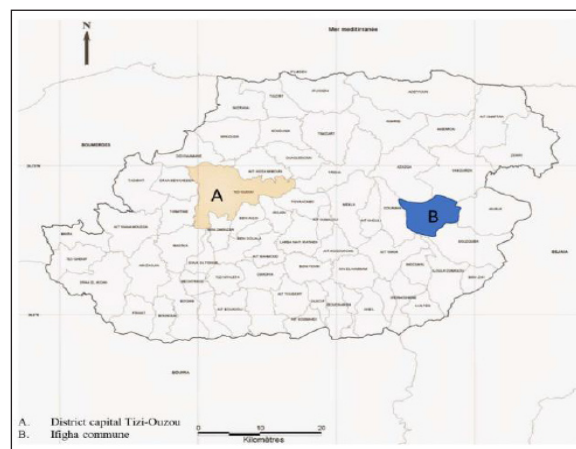
The transformation process of urban and architectural forms occurs over time through many mutations characterized by either the disappearance, the alteration, the transformation or the evolution of the original (type) (Devilliers, 1979). This study analyses the evolution of the urban and the architectural forms of the Ifigha community complex through a broad observation framework, combining between the comparative and the typo-morphological approaches. The morphological approach takes as its object of analysis and understanding the urban and the architectural forms as than physical object and spatial, before taking place in a broader scheme that takes into account historical factors, sociological and psychological (Hillier, 1987). After the identification of the typological elements and the different variations of forms characterizing the morphological evolution, we were able to define what makes type through a method of classification of a set of architectural objects, which are morphologically distinguished (Duprat, 1991).

The main source of information for the investigation on the morphological evolution of Ifigha's housing form was gathered through mapping, architectural survey and photographic survey. In addition to site visits for observation, direct questionnaire with the local residents was used to collect data concerning the age of the building, the modes of occupation and the construction phasing.

The study of the evolution of the cultural landscape of Ifigha, with regard to the new trend of urbanization, is divided in two sections. The first focuses on the socio-spatial organization model of the traditional villages of Ifigha's territory and Kabylia in general. It emphasizes also, the "intramural" transformations (Toubal & Dahli, 2009), that have mainly affected *axxam* and the structuring elements of the traditional village space. The second section concerns the new "extramural" extensions of Ifigha villages and identifies the new housing typologies developed and their impact on the transformation of the built environment and the landscape.

### The Ifigha Community Complex: A Micro Urbanization Based on the Habitat

The Ifigha commune encompasses eleven villages and is located at 45 km from the district capital Tizi-Ouzou (Figure 1). The presence of remains at several locations in the Ifigha commune, leads historians (Feredj, 2002 citing the work of Carette) to date the village first human presence to the first period of the Berber kingdoms. This is attested by the Libyan calligraphy paintings present on the Bear Rock, located at 1,500 m southwest of the ancient village of Moknea (Boulifa, 1925).



**Figure 1.** Location of the Ifigha commune in the T-O wilaya. (Source: PAW (Wilaya Development Plan of T-O), 2011)

After 1962 date of independence, similarly to the other mountain regions, Ifigha commune, experienced a demographic boom due to the opening up of this area and the reintegration of mountain region policies into the territorial development programs. The Ifigha territory is urbanised as its five oldest and largest villages (Achallam, Awrir, Ifigha, Moknea and Thabourth) grew and spread out along both the wilaya road 251 and the inter-communal road linking Ifigha to Yakourene.

The Ifigha village space is made up of rural traditional complexes of vernacular architecture most of which are abandoned and extended within the scope of the legal nature of property *mechmel* [2]. Some of these properties are subsequently attributed to the village assemblies' decision and are located either towards the flatland or towards the slope of the

mountain. In contrast to the traditional village nucleus, which contains only a cemetery, a prayer room and a small square (*thajmaât*), the new expansion zones feature many local facilities such as: a town hall, a post office, a health centre, a mosque, a primary school, a reading room and a youth centre.

According to figures from the National Statistics Office (ONS) dating from 2011, the Ifigha population was classified as 100% rural. However, this percentage does not correspond to the results emerging from the field survey conducted. In fact, the farming practices still exist, but the population does not depend on agriculture to survive. Other common statistics are also “antinomic” with this rural classification (Table 1). In fact, there is more than 46% of the active population working in the tertiary sector, against 3% only working in the agricultural sector [3].

**Table 1.** Active population, employed population and socio-professional categories in the Ifigha commune. (Source: DPAT (Directorate of Planning and Land Management), 2016)

	Active pop.	Pop.employed	Sector I	Sector II		Sector III	
				Industry	BPW	Administration	Services
2008	3332	2766	115	252	857	688	853
				1109		1541	

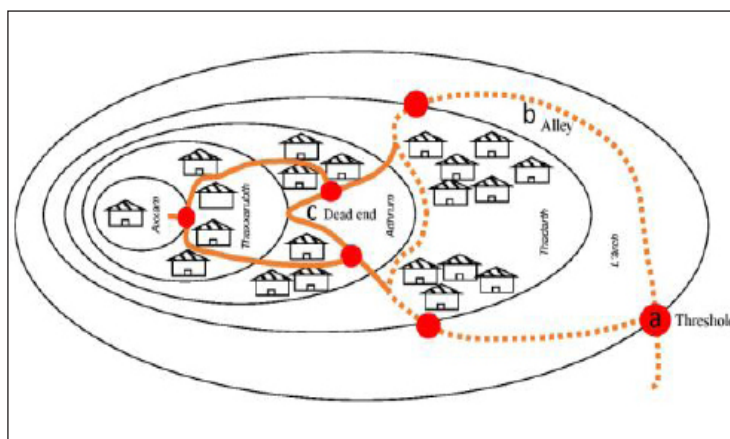
For almost three decades, from 1977 to 2008, this population has recorded a constant growth rate of 1%. The RGPH data (General Population and Housing Census) shows how the Ifigha commune population increased from 6,678 in 1977 to 7,611 in 1987, then to 8,226 in 1998 and finally to 9,160 in 2008. The Ifigha’s population density of 213 residents per square kilometre is far below the average density of 377 residents per square kilometre reported within Tizi-Ouzou region.

At present, housing plays an important role in transforming the Ifigha villages and their surrounding landscape. This results from an interplay of many factors, such as the pace of development, the methods of production and the contributions of both the internal and the external migratory flows (Dahmani, 1987; Kaci, 2000; Messaci, 2011). This construction boom and its resulting quality depend mostly on the financial means transferred to Ifigha village by the former residents, when compared with other communes of the same category but with a lower population migratory flow. It must be noted, that in default of official figures presenting both the internal and the external migration flow, the estimated data of the people who no longer live in the villages were sought for from the local authorities and the village committees. These data report an important scale of migration. In fact, around 40% of Ifigha’s population has left the village for other destinations, mainly France or the capital city Algiers.

Ifigha village appears as a patch of a small, diffuse and agglomerated housing nucleus of different sizes. The village has a polynuclear structure. These several housing nucleus are dishevelled, looking like a neuron. Their development takes place from an initial concentric and concentrated embryo, the old traditional village, towards a linear planning (village-street) at the bends of motorable roads.

### Social Organisation and Spatial Structuring of the Villages

The social cohesion of the Kabyle people, arising from their confinement to mountainous area, has a great impact on the spatial organization of the village, which reflects the cultural values of the tribe. This space, which is highly charged with meanings across all levels of the territory, is organized according to several levels of belonging bounded by ties of kinship and alliance. This tribal belonging long ensured the survival of the customary organisation of this territory, driving a lively sense of patriotism among the inhabitants while simultaneously fostering isolation by only allowing alliances between members of the same tribe (Stamboul, 1950: 66). The traditional social space has since become fragmented and decentralised into confederations that structure each tribe (the *ârch*). This space is organized into a series of concentric circles graded according to levels and degrees of intimacy (Figure 2). The souk located at the crossroad, occupies a strategic and permanent position. It appears like a weekly institution, forming the core of a rural area (the toponymy of these places derives from the weekday of their markets). The internal souk plays a social role, where even justice was sold by the Kadi (Stamboul, 1950), whereas the external souk has a strictly commercial vocation that commonly extends to include fondouks (caravanserai/hostels). It occupies frontier spaces in the zones constituting the plains (the locations where colonial villages were built during the French occupation), ensuring exchanges and trade with the exterior.



**Figure 2.** Gradation of the intimacy and sacralisation of the *axxam*. (Source: Author)

The tribal group comprises different villages that have reciprocal agreements for *lanaia* (assistance and protection). Each village (*thadarth*) is made up of a number of families, who are supposed to be descended from the same ancestor, and are organised into neighbourhoods (*thaxxarubth*), family structures in the broadest sense of the term, which are themselves clustered into sectors (*adhrum*). The *thadarth* space is structured along a narrow alley that branches out into many dead ends, which serve the private courtyards of the houses, the prayer room and *thajmaât* (place of assembly), the fountain, which is located some distance away, and the cemetery. The village is reached through an access road leading to the perimeter road, which replaces the old ridge route interlinking the different villages. In other words, the structuring of the Kabyle village space incorporates a combination of genealogical and territorial facts (Mahé, 2006).

The settlement of the village space is dictated by several social and cultural values of unity, sharing and cohesion, which are recurrent values in the Kabyle society organisation. For example, the sacred (*l'hurma*), means that honour should imperatively defend and protect against any attack (Bourdieu, 2000); the assistance (*lanaia*) (Hanotau & Letourneux, 2003; Mahé, 2006), the public property (*mechmel*), and the right (*qanun*) embodied by the village committee (*thajmaât*) (Toubal & Dahli, 2009). This institution grants itself the right to oversee both the public life and the private life of all members (Feraoun, 1972).

The traditional house is an elementary type and constitutes the household residence unit in the *thaxxarubth*. The uniformity and permanence of the passive form of the *axxam* derives from the patriarchal conception of the family and the status of the individuals in the hierarchical family relationships, defined and protected by the enclosed spaces of the house. "Product of a physical and symbolic solidarity construction, made sacred by rituals" (Maunier, 1925: 21), these houses are similar, in order to preserve the norms established by the group. In fact, the ostentatious decoration is used only in the interior space. For the Kabyle people, the *axxam* is as sacred as the village (Ait Lhadj, Aiche & Costa, 2021)). It embodies their attachment to both the land and the group, attesting a perfect territorial division and inscription founded on inhabiting, cultivating and sharing (Kaci, 2000). *Axxam* is not only the meeting place for this delimited universe of intimacy, but it is also that of the social relations into which it enters and from which it protects its occupants (Basagana & Sayad, 1973). The entry to the *axxam* interior is not direct but arranged in a grading series of thresholds (Figure 2), the last of which is the *asqif* [4]. This is both a material and immaterial boundary, which forces any strangers to announce themselves (Bourdieu, 2000). Another threshold called the *amnar* exists in the interior of the house. This one forms a small step raised from the courtyard and the animal space (*adaynin*), and is lower than the living space (*thaqaâts*); it allows for both the drainage of internal waters and the delimitation of the most private family space. The *axxam* interior is thereby organised into three half levels, a human living space, a domestic animal space and a provision storage space, which serves also as a sleeping quarters for children.

### Intramural Transformations of the Traditional Village: Morphology and Relationships

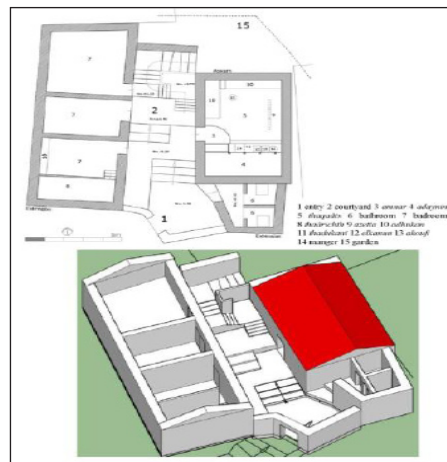
In the meanwhile, the transformations spread out to various components making up the village fabric. These features reveal the process of change, and constitute the structuring spaces of the traditional village fabric. They include the *hara*, the alley and the *thajmaât*.

#### The Hara

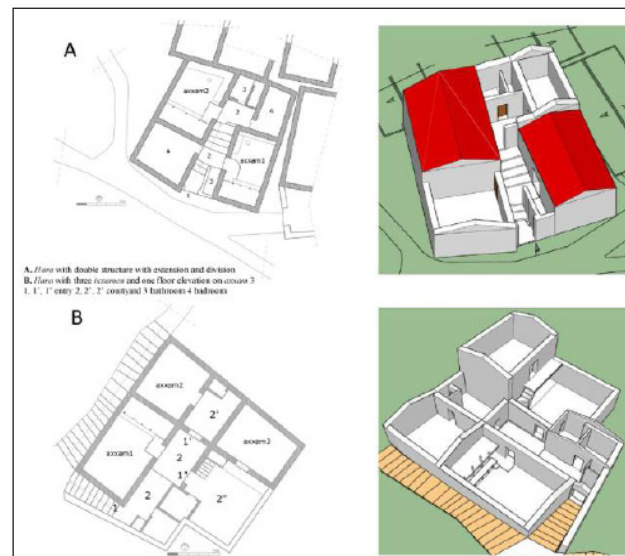
In a single or double structure, the *axxam* is multiplied through the *haras* (courtyard house) and into the village space



to form agnatic neighbourhoods around kinship. This translates the scope of belonging to the extended family. The courtyard is in fact a land reserve allowing the traditional house to develop across two dimensions, the horizontal and the vertical. The horizontal extension occurs either adjacent to the *axxam* or spreading out into the courtyard, with topological diversification through the addition of one or two monofunctional rooms, essentially reserved for kitchens, shower rooms or bedrooms for the new married children (Figure 3). In its evolution, the original *axxam* duplicates sometimes into two or more houses (Figure 4), depending on the size of the plot and the number of children. The courtyard shrinks as these extensions take place until it becomes a simple common pathway between the houses. However, in order to preserve the courtyard, vertical extensions occur upwards on the *axxam*, by raising only one level floor or a simple attic, eventually divided into two small rooms. In some cases, the ground floor is converted into a single spacious room (Figure 4).



**Figure 3.** Single-structured *hara* with extension. (Source: Author)



**Figure 4.** Multiple-structured *hara* with extension. (Source: Author)

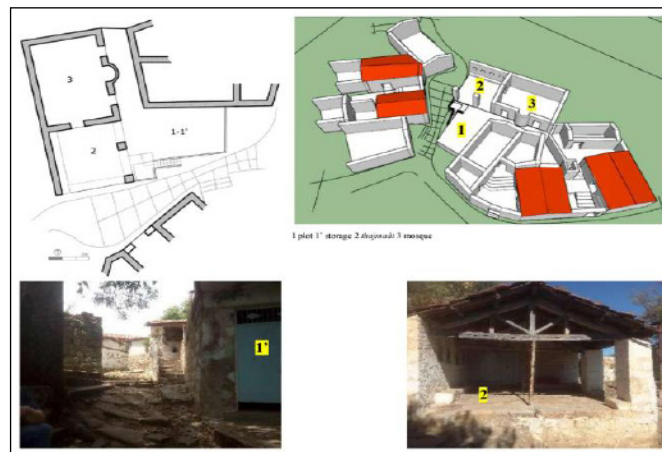
### The Alley

The alley is generally a narrow space crossing the village and onto which are grafted all the built ramifications constituted by the dead ends leading to the residential units. Along this alley, the house facades are aligned and continuous without any change in scale or ostentatious signs. They also provide shade during the summer season.

Most of these alleys crisscrossing the villages, lined with stone, are predominantly asymmetrical with profiled walls. They converge towards a vanishing point and even beyond, alternating between closure, opening, narrowing and convexity. Their direction is determined by the direction of the slope. Currently, in the villages of Thabourth and Larbaâ Ifigha for example, the alleys have changed completely from pedestrian to vehicle lane, lined up with the facades of the new houses, which have replaced the old *axxam*, that was demolished.

### The *Thajmaât* (Square and Mosque/Prayer Room)

The main access to the traditional village runs unavoidably through the *thajmaât*, which correspondingly serves as a checkpoint for the entry and the exit of people. Each village contains a single *thajmaât* made up of several spaces. The first open space is the square at the *thajmaât* entrance, that provides a place for both meetings and informal gatherings. The second covered and semi-enclosed space is the *thajmaât* itself. This space houses the formal meetings and is a checkpoint for the visitors. The mosque/prayer room is the third space adjacent to the *thajmaât*; its architecture does not differ greatly from that of the houses. Finally, the storage room is the fourth space encountered in every *thajmaât*. It serves for the storage of the furniture such as chairs, benches and funerals stretchers. It should be noted however, that its location varies from one village to another. For example, in Moknea village, this storage space is located in a terrace square basement (Figure 5) and is directly accessible from the village alley.



**Figure 5.** Plan and views of the *thajmaât* in Moknea. (Source: Author)

After the abandonment of the old villages, the square and the *thajmaât* took on other forms of representation with new spaces and new functions. A new type of square emerges at the entrance of all the Ifigha villages, sometimes with public benches and a water fountain, as in Moknea and the capital of Ifigha. Besides this, the café with a terrace replaces the former *thajmaât*. According to the survey conducted, this new space becomes the place for both formal and informal meetings.

The mosque has also undergone important transformations and is now entirely detached from the *thajmaât* and the square. It should be noted, that this new Moorish-inspired architecture, with arcades, a dome and a minaret, has a highly distinctive style in this context. In each village, the size of the new mosque is not proportional to the number of the worshippers or the inhabitants but it rather results from the amount of money collected from the contributions and the donations.

### Crossing the Boundaries of the Traditional Village and Transformations in the Built Environment

The growth of the family, the narrowing of the courtyard and the funding from emigrant remittances are determinant factors in the transformation of the village space. The migration of the native people abroad had a significant economic and sociological development on the Kabylia region (Direche-Slimani, 1997). Actually, the first external additions to the *axxam* are related to the migratory factor and the pendular population movements (Direche-Slimani, 1997; Messaci, 2011). The village transformation went hand in hand with the breakdown of its former boundaries and the disintegration of the *kharuba* (*thaxxarubth*) structure. Many families break up, just like the village space, which becomes very diffuse. The economic living standard had also an impact in this access to modernity through housing and leads to a diversity of housing models. The direct connexion to the public space becomes a goal for all new houses that no longer display fear for this space. Buildings that initially occupy a secluded position on the plot of land are now rising along the road, affirming their presence with either their vertical slenderness or their overhangs. Furthermore, the road becomes multi-functional, allowing the movement of both people and cars, providing access to houses and facilitating the exchanges through the commercial activities. The new house is no longer turning its back to the public space, instead it reveals its new type of large openings private outdoor spaces, such as balconies, loggias, corridors and terraces. The construction method has also changed following the introduction of new materials brought back from the cities. These extensions beyond the boundaries of the old traditional core occur in three stages: first into the gardens near the access road, then along the ring road and finally through dispersal into the landscape.

## System of Extension Beyond the Boundaries of the Traditional Village

### ***Along the Access Road***

During the period between 1960 and 1973, new houses emerge along the access road to form the first extramural extensions of the Ifigha villages. In accord with both the aerial maps and the field visits, these houses fall into the same category than the traditional core. Hence, the houses are either of a simple structure (one *axxam*) with a courtyard or a double structure with a square or rectangular courtyard while also including minimalist houses without any external courtyard. In fact, these first extensions take over the gardens around the traditional core and are located not far from the village access road. According to the information gathered from the population, these extensions were brought about by the agrarian revolution of 1971 (Ait Lhadj, Aiche&Costa, 2020). This stipulates that the land is owed by the people who farmed it. In consequence, the inhabitants were constrained to occupy this land with buildings, for fear to lose the fertile land (*thimizer*, plural of *thamazirith*, synonymous with garden), that was lightly farmed or left fallow. However, despite the undivided status of this land, the inhabitants arranged a friendly division between the members of each family.

### ***Along the ring road***

During the period 1973 to 1983, the building construction proliferation rate was not the same throughout the different villages. As a matter of fact, not only the migration rate differs from one village to another, but also the *mechemel* land is subdivided on the outskirts of the traditional nuclei, for fear of being integrated into the communal land reserves. This is the case for Awrir and Moknea villages. It should be noted that these new houses are located on the border of the ring road connecting all the Ifigha commune's village complexes. Either with or without an outdoor space, these houses are mostly pavilion-type with either a four-sided or a two-sided roof. The persistence of the traditional type with a few courtyard houses should also be noted. The expansion milestones made by the different connexions towards the villages are crossed over. Now, they emerge as the starting points for these new extensions.

### ***Alignment Along the Road and Diffuse Sprawl***

During the period from 1983 to 2000, the building construction reaches a considerable scale throughout the Ifigha territory. The roads definitively replace the ridge lines. They ensure that the villages are brought simultaneously closer and farther together, with their general silhouette emerging as an agglomeration adapted to the site and the topography. The alignment along the ring road creates street with continuous facades and with the ground floors dedicated to urban functions. On the other hand, the diffuse sprawl of buildings becomes more noticeable after the 2000s. Indeed, the deployment layout of the houses does not necessarily seek to align with the road, the track or the path, but it rather opens up the land close to the villages, while isolating itself from the group.

Finally, the extension of the villages took place according to a diachronic phasing, that allows the displacement of the long existing physical borders of the traditional core. This occurs as a result of the population increase, the remittances from emigrants and the advent and the deployment of the vehicle road in all the villages. Four extension phases have been identified. The first is the densification inside the *haras* (courtyard areas), then in the gardens, before spreading along the roads and finally dispersing in the landscape.

## **Transformational Typology of the Built Environment**

Other factors and aspects of the transformations of the built environment occur and have a direct impact on the housing functions. In order to illustrate these transformations, some of the components revealing this mutation have been selected. These are both significant and indicative of the mode of appropriation and territoriality.

### ***Road, Path, Track and Trail***

In the absence of information about the pre-colonial Ifigha communes, in terms of mapping of the pre-existing network of tracks and paths, it was assumed, when comparing it with other Kabyle villages, that this network must have been dense, given the scattered nature of the village complexes. The layout of the main road (ring road) serving the village complex, which dates from the colonial era, does not indicate whether it corresponds to any pre-existing thoroughfare. Although, it seems like a difficult task to overlay a vehicle road over a track or pedestrian path running along slopes. Currently, the roads and the tracks are vehicle road while the paths are pedestrian outside the built-up areas. They are paved when they serve the houses and they sometimes allow the vehicles to pass, depending on their width.

The desire to bring together the new houses and line them along the road or the access points stands out very sharply. In fact, this characteristic recalls the alignment between the *ixxamen* and the alley. The hierarchical level of the road influences the type of house that is exposed. The dominant morphological features identified for these new houses are the verticality of the house, the conspicuous facades adorned with its overhangs, the ground floor occupation and the house fence (Figure 6).



**Figure 6.** Alignment of houses along the w251 road. (Source: Author)

### ***Articulated Urban and Housing Functions***

The network of local services and urban functions continues to expand in accordance with the territorial levelling-up policy. The Ifigha commune has a number of public infrastructures planned to fulfil the basic needs of the 9,889 inhabitants across the fields of education, health, state administration and sports. Commercial activities are fairly diversified with an almost complete range of shops, boutiques and workshops (ironworks, carpentry, etc.). The exponential development of the new houses running along the main road with their ground floor dedicated to commercial purposes, promotes the emergence of small nodes of activities. As an example, the IghilTizi village appears to be the most important one.

## **RESULTS AND DISCUSSION**

The adoption of the new ways of living, resulting from several factors interlinked with the French conquest, the spatial planning policies and the emigration, led to the transformation of the cultural landscape of the Kabyle village and its vernacular architecture. These factors have disrupted the longstanding social relationships. The apparent change reflects new choices for spatial organisation resulting from the inscription of a new way of life onto the local landscape (Dahmani, 1987). The relationship to both the land and the extended family structure have also changed. It should be noted that formerly both the construction of the house and the farming of the land were carried out through mutual aid between individuals, but unfortunately the giving up of this tradition has gradually disrupted the *kharouba* family structure. In fact, the traditions supporting the historical territorial development of the area (Zorelli, n.d.) have been lost, because of the desecration of the traditional way of life initially imposed by the *kharouba* and the *thajmaât*, considered as the guardians of the tradition. As families move away, they become fragmented like the village space, that also becomes more diffuse. Moreover, the standardisation of both the spaces and the ways of life goes hand in hand with a deep process of individualisation (Segaud, 2010).

### ***Degradation and Abandoning of Traditional Houses***

The results obtained by interviewing a sample of local inhabitants (Ait Lhadj, Aiche & Costa, 2020) demonstrate that the desecration of the traditional way of life has led to the disappearance of the intangible heritage values and has encouraged the changes. Indeed, the construction of the new houses far from the traditional nucleus and the lack of means to maintain them has forced some village dwellers to leave and abandon their old residences (Ait Lhadj, Aiche & Costa, 2020). Some houses were rebuilt after demolition in order to adapt them to the new way of life. This situation plunges the old village into a sensation of anarchy and ill being, with a cacophonous cohabitation of old houses in good condition, others in ruins and the new ones completely different.

Indeed, about 70% of the old houses in the traditional villages, that have benefited from land-use planning study, are either in ruins or are in danger to collapse (Table 2), while in other instances many demolitions and reconstructions were observable in situ.



**Table 2.** Status of traditional houses. (Source: Ifigha Traditional Village SOP 2017)

	Number and condition of houses				
Village	Total	Good	Average	Obsolete	Ruin
Moknea	229	01	38	33	157
Thabourth	124	08	50	28	38
Awrir	198	04	78	28	88

### ***Variety of Housing Types Constructed***

The housing production in the Ifigha commune is mostly informal and exclusively private and for nuclear family, almost the opposite of the former one. The analysis of the new living practices through observation, surveys and questionnaires confirms the transformation of the living patterns and their denigration of the traditional patterns. In fact, the expansion of the villages has an impact on the harmony of the built environment while propelling 'the informal construction which is neither traditional nor modern' (Zorelli, n.d). It should be noted, that until 1980s, a period of continuity in terms of typology prevails and maintains 'a degree of filiation' with the traditional *axxam*. But after this period and as a result of many factors, like the distance from the traditional village, the sprawl and the deployment of vehicular roads, the form of the house and the housing practices and activities became very similar to those of the urban houses.

Until the end of the 1970s, the courtyard house type and the minimalist house type, either without a courtyard or even with a very small one, prevail in the traditional village and even in the first extensions of the Ifigha commune villages. Some examples of these, have been encountered, even while some houses and some more recent ones have undergone demolition to make room for the new houses, more spacious and more closely located.

Later in the 1980s, the detached house emerges and prevails throughout the Ifigha landscape.

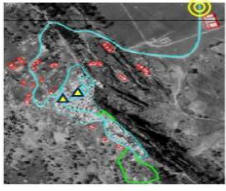
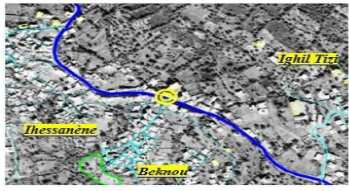



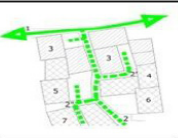
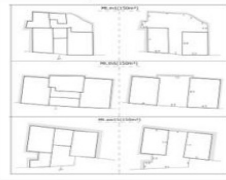
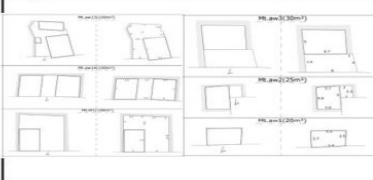


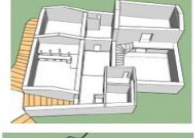


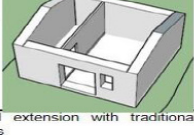

From the 1990s, the single-family house emerges, with an exterior appearance nearly similar to the detached house. But from the 2000s onwards, Ifigha witnesses new types of housing, like multi-storey buildings and villas. It is important to note, that these new types of housing are located as close as possible to the road. Sometimes the juxtaposition of these different types takes place in series, with one type placed next to the other (Figure 7). It seems that the existing urban planning regulations are inefficient because of the informal nature of the majority of these constructions.



**Figure 7.** Evolution of house types in Moknea and Awrir. (Source: Author)

Finally, all these aforementioned transformations of the housing and the urban space typological element, occurring at different scale in the Ifigha commune, were broadly summarized in the form of a synoptic table (table 3).

**Table 3.** Synoptic table of transformational typologies. (Source:Author)

Evolution	1 <sup>st</sup> extramural Extension	2 <sup>nd</sup> extramural Extension	3 <sup>rd</sup> extramural Extension
Village			
Observations	Along the access path to the interior of the village	Along the perimeter road from the access threshold, situated at the intersection of this road and the access path towards the interior of the village.	Scattering of the constructions in the landscape amplified by the branching of the access points converging to the new houses.
Kharouba/ traditional core	Linear Development	Parallel development	Arborescent development
			
Observations	The dead end takes the form of the divided courtyard	Opening of a new dead end parallel to the existing alley	The dead end is branching out over many divided courtyards
The hara/ Plot			
Observations	Courtyard genotype of hara type double structure. Densification and division	Courtyard genotype of hara type double structure, simple structure type and minimalist house type equipped with small yard. Densification and elevation	Phenotypic space (corridor, hall, exterior corridor) and hybrid type (genotype et phenotype)
Axxam			
Houses			
Observations	Internal division, elevation and extension with traditional materials: internal transformations	extension with traditional materials: internal transformations	Formes and facades diversity with new materials : external transformation

## CONCLUSION

Today, the pace of mutation from an agricultural lifestyle to a more intense urban one is shaping the cultural landscape of the traditional village and is making many changes on the lifestyle. It is clear, that these mutations have contributed to the loss of the village architectural identity. This study explores the changes in housing patterns resulting from urbanization practices and their inappropriateness to the mountainous region in various Ifigha commune villages. It demonstrates the lack of interest in the preservation of rural architectural heritage, which is in danger of disappearing completely. It appears from this study, that this process of the abandonment of the villages first began in the 1970s with the occupation of the gardens and the agricultural land. Then, it spreads and intensifies with the improvement and the construction of the roads and the paths. Indeed, the aerial maps tracing the evolution of the urban space of the commune clearly illustrates this phenomenon. This appears in the ongoing changes of the old *ixxamen's* courtyards overgrown by wild plants after their desertion.

Four phases of renewal were identified in relation to the respective periods of densification and expansion. These four phases have also identified four housing typologies presented above, not with standing that the courtyard house typology includes also other sub-categories.

## Endnotes

[1] *Axxam* (x = kh, thus read *akham*) is the Kabyle name for a house in the everyday language. However, its application in the scientific context exclusively refers to the traditional house.

[2] Land ownership is sacred and conveys special status in Kabylia that includes three main forms: A- Private property 'Melk', divided or undivided. B- Communal property (village or tribe) 'Mechmel', land that is completed or not built on

and that can be used for sharing between inhabitants during future extensions of the village or kept for purposes such as a cemetery, meeting places, pastures, streets and mosques. C- State property, a new form of property dating from the French conquest and comprising vacant properties without ownership.

[3] Agricultural activity, Ifigha does not attain the classification threshold for such settlements, with an estimated rate of 25% of the total population engaged in such activities, and is classified as a rural entirely with agricultural activities accounting for only 1% of the overall population in 2008.

[4] *Asqif*: a generally covered space forming the transitional threshold between the interior and the exterior of the *hara* (courtyard house).

## Acknowledgments

This article is part of the CEAACP project UIDB/00281/2020 funded by the FCT (Foundation for Science and Technology, Portugal)

## Ethics declarations

- **Disclosures& disclaimer** This article is part of the CEAACP project UIDB/00281/2020, as a courtesy, with no obligation on the authors' part. Funding for this editorial support was provided by the FCT (Foundation for Science and Technology, Portugal).
- **Conflict of interest.** The authors declare that they have no conflict of interest.
- **Ethical approval.** This article does not contain any studies involving animals performed by any of the authors.
- **Informed consent.** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants in the study.

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**Citation:** Zoulikha Ait Lhadj, Messaoud Aiche, et al. *Rural Development and Habitat Changes in Ifigha (Algeria)*. *Int J Innov Stud Sociol Humanities*. 2022;7(8):125-136. DOI: <https://doi.org/10.20431/2456-4931.070812>.

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