

INDUSTRIAL RUINS: CONSERVATION EXPERIENCES IN VACANT HERITAGE BUILDINGS

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ABSTRACT

Industrial heritage conveys archaeological evidence of past industrial technologies and processes, engineering, architecture and town-planning. Due to the fast development in technology, many former industrial structures and premises have been abandoned.

The research topic is chosen from Eskişehir. Eskişehir is one of the leading cities in Turkey's industrialization. This study focuses on historic zone of factories in Eskişehir, which is known for its urban problems. One of the central problems in the preservation of industrial heritage is the lack of effective dialogue between institutions and stakeholders regarding private property rights; urban land development and the demand for new construction, legal and administrative processes; increase in public demands; shortage of economic resources; etc. In the solution of such problems, the appropriate conditions are not always realized, and thus structuring channels of communication between stakeholders and decision-makers may fail. At this stage, industrial assets lose their valuable constituent parts rapidly.

The study examines the effects of transformation of industrial heritage into empty spaces in the context of urban memory, and questions these spaces that have gained value over time as interest of the contemporary art and architecture. The aim is to analyze the diversity of abandoned industrial buildings and to understand the qualities that need to be protected by revealing the connections of these buildings and spaces with the old industrial processes in the context of spatial experience, application, representation and identity.

Keywords: Industrial Heritage, Architectural Conservation, Abandoned industrial buildings, Eskişehir-Turkey

1. INTRODUCTION

Wars and associated migrations, natural disasters, technological, economic and political developments have been determinants in shaping the physical and

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social structure of the city of Eskişehir since the 19th century. "Factories" zone were developed as a result of expansion of production structures on the banks of Porsuk River within the process starting with the passage of Berlin-Baghdad railway through the city.

This area defined as industrial site not only incorporates production structures but also education, culture, health and social facilities. Social facilities, established within the boundaries of the factory, such as housing, farm, sports, hospital, theatre, walking paths, green areas served as vanguards for change in the city. These developments are milestones that not only transform socio-cultural dimensions of production-consumption relations and daily living practices of the community but also physical structure of the city in a deep manner. In the years following, while technological developments impacting all parts of the life, vanguard locations and facilities of industrial process began losing their efficiency and some of them were left to their destiny by becoming dysfunctional for a long time. Today these deserted structures gaining importance as multi layered industrial heritage offer a wide framework for research activities (Riegl, 2005).

Currently, there are 155 inventoried industrial and commercial buildings in Eskişehir (Url-1). Many industrial buildings, which were previously located at the "edge" (or even suburban) of the city, remained in the center of the increasingly expanding city. When the current status of the Industrial Heritage and its areas are analyzed, it is seen that the registered samples in Eskişehir are re-functionalized as entertainment centers, shopping malls or hotels etc. However, samples that remain in the usage areas of public enterprises such as TCDD, TÜLOMSAŞ, Sugar Factory, which continue their activities, are either evaluated within their own corporate structures, filled with new equipment brought by new production technologies or kept empty and lose their connection with urban life. On the other hand, most of these factories are private property that are kept vacant. Industrial structures belong to private sectors in the area were registered according to the 1/5000 Master Plan, approved in 26 July 2002 and revised in 20 October 2003 and 1/1000 Development Plan for the factory area approved in 11 December 2003.

Under the threats such as lack of effective dialogue between institutions and stakeholders on private asset rights, urban land development and new demands for profitable construction, halting of legal and administrative processes, and lack of economic resources, decision-making mechanisms did not operate and these structures turned into abandoned areas. At this stage, indeed the most losing is the cultural asset that is desired to be saved. While the decision-making mechanisms for the preservation of the dysfunctional industrial heritage are expected to act, unfortunately the unique characteristic elements of this heritage

are rapidly disappearing. It is observed that over time the vacant industrial buildings and its areas have turned into unqualified urban areas, which lack of urban services and maintenance. The industrial heritage areas that have lost their functions, turning into abandoned unsafe areas exposed to vandalism, cause environmental concerns. On the other hand, legal and administrative arrangements for the cultural heritage management are inadequate to establish a collaborative relationship between stakeholders for the joint decisions on resolution plans.

In this study, which focuses on this uncertain interim period in which industrial heritage is under threat, we question how dialogue channels can be created between different stakeholders. When the lack of dialogue between stakeholders becomes a growing problem starting from individuals, local, small-scale, short-term, multi-functional activities can help achieving long-term sustainable conservation goals.

In recent years, idle industrial buildings, not used anymore, have gained supra-time and supra-location validity of aesthetic value as an interest area of modern art approaches. Industrial heritage buildings and sites, establishment and development phases determined within the context of production relations, after losing their function and significance and being deserted, inspires transformational power of art by gaining aesthetic / cultural / historical / social values in an area outside of profit-seeking market relations. At this point, art can become an open-ended instrument of expressing cultural heritage, cultural history and socialites (Corredor, Montaner, 1984). In this context, in the last decade, the potential of deserted industrial buildings in Europe and the USA to be transformed into modern art projects with new and creative solutions have been put forward (Sobrinho, 1996). These type of art works are very new to our country. Generally speaking the outcome of these works is the re-invention of idle industrial buildings and sites by making them visible and up-to-date and meeting them with the community. This way, both sharing of common feeling that can result in public interest regarding their protection is captured and diversity in cultural experience can be ensured.

2. MATERIALS AND METHODS

Contemporary art or architecture practices, which initiate “public communication” about cultural assets as an object of instant or ongoing practices, regardless of conditions and content, are emphasized. For this purpose, the inactive industrial facilities in Eskişehir were investigated in terms of their relationship with the physical environment, architectural features, spatial features, and construction techniques through analyses and surveys. Then, it is aimed to develop a

temporary utilization model that will represent the industrial heritage for the prolonged period until the most convenient form of conservation is decided. The temporary utilization is not limited to the understanding of their cultural assets but also covers initiating dialogue between stakeholders and actors and sharing information in an interdisciplinary way between the actors of the whole conservation project (condition state, diagnostic and appropriate conservation proposals). The temporary utilization model would also increase awareness on the importance of vacant industrial facilities pose for communities. Moreover, the challenges and opportunities in revealing the potential of local actors to participate in the endangered cultural heritage have been also evaluated in this research.

2.1. Definition of Research Area and Analytic Assessment

As the sampling area suitable for the purpose of the study, two derelict industrial campus were selected (**Hata! Başvuru kaynağı bulunamadı.**). The two areas designated as research focus are industrial settlements of both public and private property, developed in Eskişehir. These are, the former industrial region extending from Station Building to the north and south factories area, TÜLOMSAŞ and TCDD Terminal Areas.



Figure 1: Research Areas (processed from Google Maps, 2020).

Within the scope of the stated aim, first information about the study field was presented. Following that, within the Eskişehir Technical University Conservation Project -I class of 2018-2019 Fall Season, this research under question were given due attention in terms of analytic and visual examinations evaluating the history of the buildings that remained idle after their functional validity, their relationship with the physical and social structure of the city, architectural features, spatial features and construction technique by post graduate students.

Primarily, dynamics effecting the change and transformation processes in the city are investigated for identification and general assessment of industrial sites.

Industrial sites accepted as “empty” are identified with regards to ownership and registration. The changes of industrial sites from past to present are described with city plans, maps and photos. In order to solve problems of protecting industrial heritage, by analysis of city plans regarding inter-action with close vicinity, changing socio-cultural relation is assessed. These analyses form the basis for the planning of temporary utilization model of industrial heritage and its vicinity. Following that, for each area temporary usage models were produced.

3. RESULTS

3.1. Spatial Differentiation Periods in Eskişehir

Eskişehir is an important Anatolian settlement in which state-centric industrialization movement affected demographic structure. When rapid change of socio-economic structure of Eskişehir is examined due to industrial investments three determinant phenomena are observed:

a. The place of the city in transportation network: Eskişehir, located in the northeast part of Internal Anatolian Region, became a town where commerce improved owing to its location at land routed in Anatolia in the Antique Age. The city, belonging to the geography where Ottoman State had been established, by being on the route of pilgrimage and army convoys kept its strategic importance. The town’s geopolitical importance increased by passage of Anatolia-Hicâz railroad through Eskişehir in the 19th century. The first industrial institution established by Germans to repair vagon sand steam locomotives in the pre-republican era, “Cer Atölyesi”, with the start of the Republic, was nationalized and developed into a structure that avails employment and qualified employee training.

b. Population movement due to migrants: Waves of migration affected Eskişehir after the 1853-1856 Crimean War and 1877-1878 Russian War called as War of 93. With the agricultural, handcraft and business cultures of incoming migrants from Rumeli, Crimea and Caucasia, the city's commercial institutions were diversified. The map dated 1896 is intriguing to notice spatial break-up that social impacts had caused (Figure 2). Pre-industrial town shape that roughly consist of two separate centers underwent serious transformations. While traditional residential area on the southern outskirts and bazaar in the center existed, new neighbors developed along the northern part of Porsuk River. Together with these settlements, the first linear amendments on the parcelisation arrangements and road widths were observed in Eskişehir (Ekimci, 2016:34). On the map, the start of a structural development in the the vicinity of the station established on the northern skirts of the city center is observed.



**Figure 2: 1/10.000 scaled Eskişehir Map (1896).
Harita Genel Komutanlığı, Ankara.**

c. Choosing location for Republican Period industrial settlement: Within the context of development initiative started after the proclamation of the Republic, among Turkey's first industrial investments are Roundhouse Workshop (Cer Atölyesi-1926), Plane Maintenance Center (1933), Eskişehir Sugar Factory (Ertin, 1994). For the public investments requiring large fields choices within the tissue of the city were made by buildings were constructed in accordance with functional principles with a modernist manner. Promotion and representation of industrial and public investments that began to determine the quality of construction in the city carry significant meanings. In addition to the housings established together with new facilities in the first years of the Republic, residential design in the neighborhood scale was realized in factory areas and their near vicinity. After 1950, with housing cooperatives established by workers new settlement areas emerged (Figure 3, Figure 4).

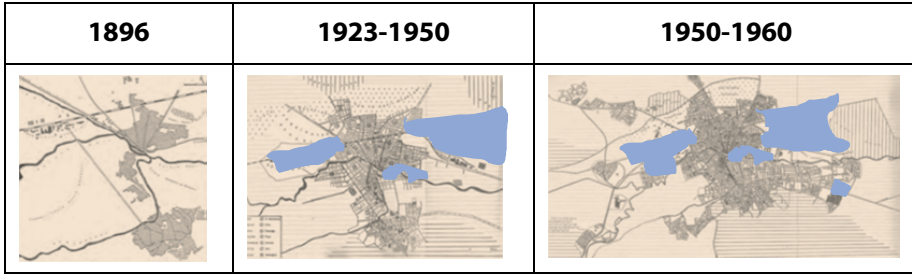


Figure 3: Development of Eskişehir Industrial Areas (Ertin:1994: Annex-1).

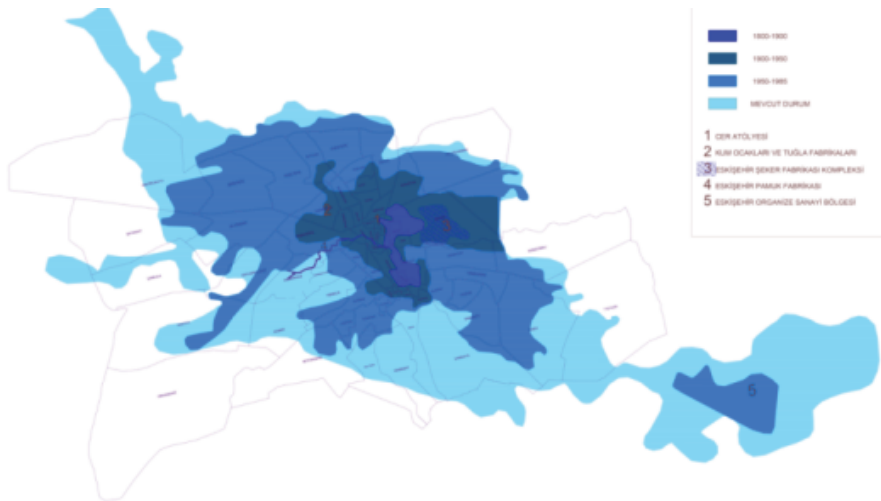


Figure 4: Development of Industrial Areas in Eskişehir 1800-1985.

3.2. RESEARCH AREAS

- **Factories Region:** The factories region developed over time, after the opening of Station Building connected to the 1896 Anatolia-Hicâz railroad, with addition of new factories manufacturing in various kinds, is today a urban conservation site (Table 1). Part of the buildings in the areas limited by the railroad are either destroyed or re-functioned in the form of entertainment, catering, and shopping mall. Kartal Tile and Bricket Factory, Doğan Tile Factory, Kılıçoğlu Tile and Bricket Factory and Çiftkurt Tile Factory belonging to private property lost their functions and are deserted. Among them Çiftkurt Tile Factory was recently destroyed due to neglect (Table 2).

Table 1: Deserted Buildings of the Former Industrial Region












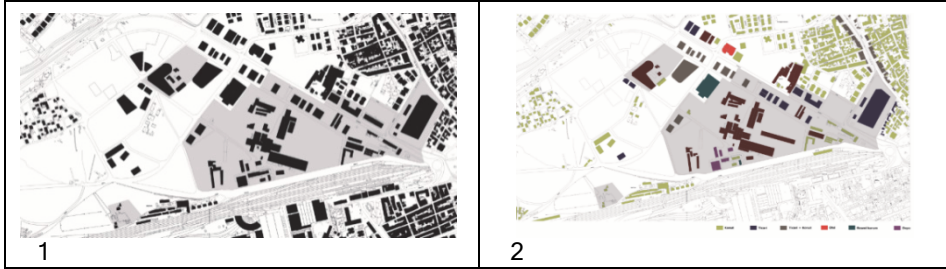
KARTAL TILE AND BRICK FACTORY			
	Registered– Private Property	39°46'47.00"K, 30°30'0.52"D	RUINED(Const. Date 1944)
DOĞAN TILE FACTORY			
	Registered– Private Property	39°46'57.76"K, 30°30'7.45"D	RUINED (Const. Date 1946)
KILIÇOĞLU TILE AND BRICK FACTORY			
	Registered– Private Property	39°46'53.56"K, 30°30'9.21"D	RUINED (Const. Date: 1949)
ÇİFTKURT TILE AND BRICK FACTORY			x
	Registered- Private Property	39°46'53.56"K, 30°30'9.21"D	DEMOLISHED (Const. Date 1949)

Table 2: Factories Region 1. occupancy-vacancy 2. Close vicinity-function

The first of the factories located in the factories region, Kartal Tile and Bricket Factory is registered with its two tile kilns and chimneys. Consisted of two parts, the factory's roofs are collapsed and surrounding area is filled with debris piles. Front and rear facade shave 15 kiln entrances. The frames and wings of windows is disappeared.

Doğan Tile Factory is registered with its stile kilns, tile depot, two chimneys as well as factory buildings on the west of them. Inside there exist 13 kilns connected to each other and in front of kilns are located circulation spaces top of which covered with sheds. Masonry buildings made of tiles are covered with roofs on the top. The roof built for drying the tiles between the two factory buildings is collapsed. Inside it, homeless people reside in and a part of the factory entrance is used as parking lot.

The Kılıçoğlu Bricket and Tile Factory (1927-1949) located on a wide area was expanded with addition of annexes in different periods. It consists of Bricket Cotta manufacturing main building, factory structures, water towers and chimneys. 1 and 2 store masonry-built structures possess wooden roofs. Inside the factory exist tunnel kiln, presses and drying chambers together with production line, zigzag kilns and mud machine.

These structures, stayed out of residential areas in the period of their construction, are now distinguished from the general texture of the city due to their scale, structures and functions and are under pressure of demand because of the rising price of land in the city. The transformation of these industrial structures in vicinity of the city into cultural, art and entertainments center, is important from the aspect of revitalizing and protection of the deserted structures by giving new functions.

-TÜLOMSAŞ and TCDD Terminal Area: Traction Workshop together with the lodge and administrative buildings found in the TCDD Terminal area are located close to the factories region at the northwest. The Workshop, founded in 1894 for maintenance and revision of steamed locomotives, experienced many firsts and

has been unforgettable since national liberation years in the history of the Republic. With the closure of steamed locomotive period, the Workshop, undergoing changes of names and manufacturing, became a forefront institution serving as foundry, turnery levelling, carpentry, project drawing, forging, boiler house, power station as well as school of apprenticeship training. Part of the facility which was recently evacuated and its equipment dismantled has started to be used as part of control /simulation center of the high speed train system (YHT). The traces that can enable us to understand the production past reaching back to the steamed locomotive period within and around the structure are being eradicated by dismantling (Table 3, 4).













At the northeast of the railroad, 5 single store masonry housings with gardens where employees of the factory reside were built in the same period with the Traction Workshop. Two of these buildings, which carry plain and simple features both with their architecture and landscape, are still in use today. These registered housing buildings are becoming ruined from day to day due to negligence.

As a result of analyses in the area it is observed that a dense housing area was developed around the factory. New housings were constructed via cooperatives towards south after the first railroad housings between the Traction Workshop and Station building, at the south of the railroad line. Parallel to this development, other structures consisting education, commerce, social and cultural sites, also emerged. However, due to increased traffic load, deficiencies in infrastructure, changing social structure and likes, the vicinity of the settlement lost its former value.

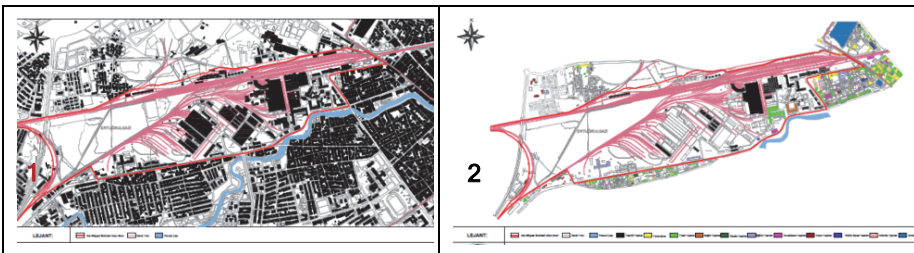
Although areas such as museum, wedding saloon, hospital, cafeteria, and walking paths are open to public, these registered facilities still are not known and are not noticed sufficiently.

The local product sale tents, installed by the local municipality involve programs colored with concerts and exhibitions, provide liveliness by increasing visitor numbers even temporarily.

Table 3: TÜLOMSAŞ and TCDD Terminal Field: Vacant Structures.

<p>ROUNDHOUSE WORKSHOP</p>			
	<p>Registered- Public</p>	<p>39°46'42.45"K, 30°30'6.84"D</p>	<p>RUINED (YT: 1896)</p>
<p>VAGON MAINTENANCE WORKSHOP</p>			
	<p>Not Registers- Public</p>	<p>39°46'44.79"K, 30°29'55.90"D</p>	<p>RUINED (YT: 20. YY)</p>
<p>TCDD HOUSING BUILDINGS</p>			
	<p>Registered- Public</p>	<p>39°46'44.51"K, 30°29'59.05"D</p>	<p>RUINED (YT: 1896)</p>
<p>TCDD ADMINISTRATIVE BUIKDING</p>			
	<p>Registered - Public</p>	<p>39°46'50.03"K, 30°30'27.46"D</p>	<p>GOOD (YT: 1896)</p>

**Table 4: TÜLOMSAŞ and TCDD Terminal Field 1. occupancy-vacancy
2. Close proximity -functional**



3.3. Temporary Utilization Proposals

Proposals have been developed that will exhibit the traces of the past, by examining the industrial structures in changing environment with regards to their representation in the city, location and organization interaction with the environment within physical and social dimensions and contribute into cultural importance of the each region.

-Factories Region: Factories region is located in the center of a dynamic tourism area with focus on entertainment, catering, shopping, culture and art. Since they are private properties the factory buildings under conservation areas are closed to visitors. Because the factory structures are not used anymore, the streets in the sections merging with railroads are very quiet in evening hours. For this reason, a orienteering game, informing about the structures by monitoring them from outside is configured (Figure 5). This game is developed in order to introduce the structures and offer the users different spatial experiences.

In the game, there exists a route to follow and targets to reach. The aim of the game for the players is to act according to the instructions, realize the given details and act in coordination with their teammates. Target points are those viewpoints in which elements of heritage located in the factories zone can be monitored from the outside. Each gamer is given a route and a map on which targets are marked at the start line. Short info packages with symbols are provided in order to introduce and explore industrial heritage. On the route of the activity, symbols collected from target points are marked on the maps. The game ends with collection of all symbols. With this, configuration of the game elements of the heritage are conveyed to the participant without limitations of private property.

- TÜLOMSAŞ and TCDD Terminal Area: When surveys are analyzed, it became clear that components of the heritage are not known by the people. In order to revive the railway social venues where public concerts were held in the past, it was envisaged that alternative units open to public use can be created which would attract people to that region (Figure 6).

It is proposed to introduce the industrial heritage via opening cafes and a concert platform around walking path which is out of the restricted area of TÜLOMSAŞ and the Railway Station. In this way, it is aimed to raise awareness about the promotion and preservation of the industrial heritage through a cultural element existing in the city's memory.

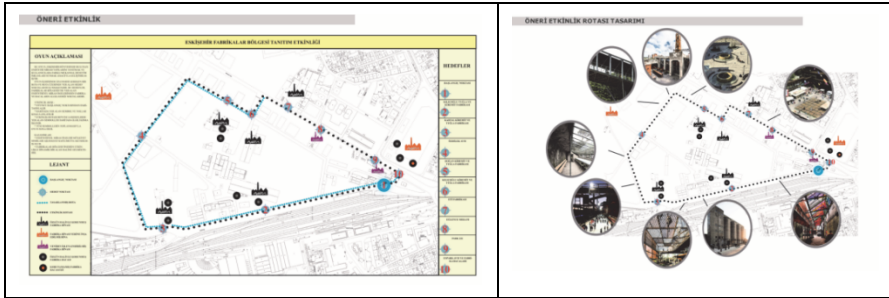


Figure 5: Factory Region orienteering game activity

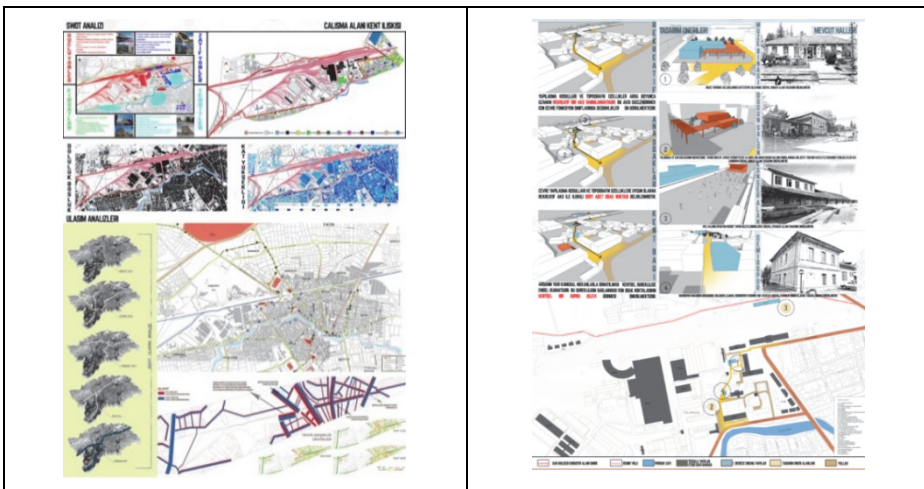


Figure 6: TÜLOMSAŞ and TCDD Terminal Area: Temporary utilization proposal for idle industrial buildings

3. DISCUSSION

Transformation of former industrial sites in cities for reutilization is among the current topics of architectural conservation. However, the obstacles in front of these structures, which are intended to be used for a new purpose, arise from the fact that actors cannot establish a collaborative relationship for the joint decisions on their protection principles.

When industrial heritage is endangered, what needs to be done to ensure the protection of cultural heritage and to act decision-making mechanisms is to present it to the public with all its features that prove its authenticity, value and integrity.

This basic objects of these temporary utilization plans are; reduction of urban pressure over deserted industrial areas, increase of awareness regarding importance of the structures for the city memory and enabling dialogue between stakeholder by raising public awareness on their protection in the long term.

4. CONCLUSION

While the number of industrial heritage that needs protection in Eskişehir was 175 in 2014, it fell to 155 in 2017. When the speed of losing industrial heritage is considered, this research displays that as soon as these facilities were deserted, though registered, their inside was vacated or "still working" elements were dismantled. A detailed inventory of memorials in question have not been prepared. There are some issues that distinguish industrial heritage from other heritage kinds (ICOMOS_TICCIH). Before the integrity of settlement is destroyed, portable mechanical equipment disappears for some reason, printed and visual documents are scraped to junk, a cultural inventory needs to be prepared and a road map should be drawn in order to protect the cultural heritage.

Multi-cultural practices that will represent industrial heritage will help remind and question them in cultural memory in abandonment stages that isolate industrial buildings from urban life. It is the common responsibility of all institutions and sectors to protect not only the structures but also its cultural meaning in the public memory in an industrial area where the primary reason for protection is to give information about the old industrial processes.

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