

*The Economical System of Kush*

*(2500 – 155 B. C.)*

*Dr. Karim Barakat*



## *The Agriculture:*

The excavations didn't find any evidences about the practicing of Kerma people for the agriculture, the tools which used in the agriculture didn't discovered at all . Also, the scenes and the palettes which can give us any information about the agricultural activity in Kerma society was not found. Most of the scholars believe in the practicing of the agriculture by Kerma people, this indicated by the presence of some remains of the grains inside the houses. Additionally, I mentioned that the valley of Kerma contained a suitable areas for the agricultural activity<sup>(1)</sup>, Kerma knew the agriculture of some corps for producing the grains and vegetables , the Nile flooded annually to cover the fields and to increase the fertility of the soil, beside giving the suitable amount of water for the plants growing<sup>(2)</sup>.

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<sup>(1)</sup> *In 18 / 5 / 2005 , the British D. Edwards talked a satellite photo for the valley of Kerma and Erdwan island , he found that this regions was containing many ancient branches of The Nile which dried now , that make us sure that this region was able for the agriculture activities .*

<sup>(2)</sup> *J. Taylor , Egypt and Nubia , London 1991 , p. 21 .*

### *The agistment and fishing:*

Beside the agriculture, the agistment played an important role in the life of The Kermals, specially in the period of Old Kerma, the excavations gave us a very important evidences about the presence of a great wealth of animals, such as the cattles and sheeps, where their bones found in the living quarters and cemeteries, they were burying with the deceaseds as offerings, or they were butchered in a great numbers in the beanfeasts which accompanied the burial ceremony .

On the other hand, the presence of the grate numbers of cows in Kerma is an indicator about the dry climates of Kerma in the past more than now days, the amount of the rains were enough for the growing of the plants which the cattles and cows depending on them in their feeding. Perhaps it was essential to the shepherds of Kerma to transfer with their animals to the neighboring valleys in the season of rain , then they have to back to the Nile in the season of the dryness , where they found the farmers have exploited all the agricultural lands in the lowlands which irrigated by the water of the flood<sup>(1)</sup>.

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<sup>(1)</sup> J. Arkell , *The history of The Sudan* , p. 66 .

(In the season of 94 – 95) , Ch. Bonnet discovered a paintings of cows in El-Defofa alsharqeya , additionally to the famous scene of the focusing which discussed by Reisner, Reisner said that the animal which is nearing to the focusing is a donkey, but after the assuring of Ch. Bonnet of the scene, he found that this animal is an ox, went to drink from the focusing , beside him there was a wild ox, which make us sure of the presence of the cattle agistment in Kerma<sup>(1)</sup>.

The studying of the animal bones remains indicated that 90% of them were of the bones cows, sheeps and muttons. The proportion if the animal bones were the highest proportion, then it followed by the muttons and the goats, there was just 10% for the bones of dogs and donkeys. Also, there was a very low proportion for the bones of fishes and birds in the population sites<sup>(2)</sup>.

This statistical indicating the importance of the agistment in Kerma society. on the other hand, it is

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<sup>(1)</sup> Ch. Bonnet , *Les Fouilles Archeologiques de Kerma ( Sudan ) , Rapport Preliminary Sur Les Campaigns de 1993 – 94 , 1994 – 1995 , Geneva , vol 43 , 1995 , fig. 20 , p. 50.*

<sup>(2)</sup> L. Chaix , *Sixth Note on The Fauna from kerma ( 1989 – 1995 Campaigns ) , in : Id., Les Fouilles Archeologiques de Kerma (Sudan), Geneva , vol 43 1995 , p. VII – IX .*

indicating that both of hunting and fishing didn't play an important role in the life of Kermals .

In my opinion , I think that it is unlogical idea that a city located at the Nile as Kerma , and depending on this river in many aspects of its life , didn't exploited the fishes of the river in its feeding . the working of Kerma's people in fishing is indicating in the paintings and colored scenes which discovered in the funerary temple K 11, where we see a group of hunting scenes and fishing<sup>(1)</sup> .

Therefore, the undiscovering of a large amount of fishes bones in the excavations , must be having another explanation , perhaps there was a different way of cooking the fishes , or perhaps the fishes bones were used in the medical purposes as what did by the Egyptians , one of the papyrus mentioned that the fishes bones was using in medical purposes.

### *The Trading :*

The trading played an important role in the economy of Kerma, specially in the periods of Middle Kerma and Kerma classic , that indicated throughout the many

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<sup>(1)</sup> Ch. Bonnet , *Kerma Rapport Preliminaire Sur Les Campagnes de 1993 – 1994 et 1994 – 1995* , Geneva vol 43 , p. 50 fig. 19 .

commercial sites which discovered by the excavations of Ch. Bonnet, which can be indicated by the foundation of the large amount of the seals of the goods<sup>(1)</sup>.

The strategic location of the city, at the eastern bank of the Nile, located at the point of meeting the commercial roads of south, east and west . Hence the rulers of Kerma were able to control the markets of the goods which exported from Sudan. The Kermals engross the trading of ivory, ebony, lipards leathers and tigers leathers, Kerma exported this goods to Egypt and perhaps Syria and Palestine, Kerma imported the clothes, honey, wines, grains and many others<sup>(2)</sup>.

It seems that the ruler of Kerma engross the trading of the gold, B. Kemb think that the gold trading was one of the most important reasons of the flourishing of Kerma and make it wealthy in the period of The Hyksos dominion in Egypt<sup>(3)</sup>. The huge brashes in Kerma included a large amounts of the pottery of Tell El-yahodya which was located the capital of The Hyksos" Avaris " in eastern

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<sup>(1)</sup> Ch. Bonnet , *Les Fouilles Archeologiques de Kerma Sudan , Rapport Preliminaire Sur Les Campagnes de 1995 – 1996 et 1996 – 1997* , Geneva , vol. 45 , 1997 , p. 99 .

<sup>(2)</sup> T. Kendall , *Kerma and The Kingdom of Kush , The Archaeological Discovery of an Ancient Nubian Empire* , Boston 1997 , p. 7 .

<sup>(3)</sup> B. Kemb , in : B. Trigger, *Ancient Egypt, Social History*, Cambridge 1983, p. 167 .

**Delta, this pottery from a Syrian or Palestinian origin , the discovering of a number of this vessels in Kerma indicating the presence of trading exchanging between Kerma and Avaris, or perhaps between Kerma and both of Syria and Palestine in indirect way throughout Egypt<sup>(1)</sup>.**

**The most important sources of the gold in Upper Nubia found at the mines of Wadi El-Allaki and the mines of Hagar Shams in the eastern desert , after the importance this mentioned mines, the groups of Upper and Lower Nubia mines which determined by J. Vercoutter followed this mines in their importance<sup>(2)</sup>.**

**It seems that when Kerma expanded northly in Lower Nubia in the classic period, its ruler appropriated this mines, that indicated by the discovering of kernal sites near the fortresses of Kuban and Sarra sharq, this two fortresses achieved on the mines of Wadi al-allaqi in the eastern desert<sup>(3)</sup>. I think that may be the king of Kerma was able to benefit from this mines and engrossing the trading of**

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*(1) T. Säve-Söderbergh , The Nubian Kingdom of The Second Intermediate Period , Kush 4 , 1956 , p. 59 .*

*(2) J. Vercoutter , The Gold of Kush , Kush , vol. 7 , 1959 , p.p. 120 – 53 .*

*(3) Angelo and Alfredo , Castiglione , Gold in The Eastern Desert , in : D. Welsby , Sudan Ancient Treasures , The Exhibition of Recent Discoveries From The Sudan National Museum, London 2004, p. 122*

gold there by the help of The Medjay tribes and some Egyptians.

On the other hand, it seems that the commercial activity of Kerma's people included the east of Sudan, where a seals made of a dust mud discovered in Kaslla and Atbara, this seals were similar to the seals which found at Kerma<sup>(1)</sup>.

Therefore, it is thought that Kerma had an important port at the Nile, because the ships which came to Kerma from the middle of Africa have to leave their carriages. despite of the undiscovering of buildings remains there, Ch. Bonnet said that we can imagine the presence of fleets from the remains of the paintings which found at the walls of niches. the lascars were having a numbers of boats which made of wood, they are similar in their shapes to the old boats which made of papyrus, this kind of ships spreading out in Egypt in the funerary purposes or in the pilgrimage to Abydos<sup>(2)</sup>.

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(1) Ch. Bonnet, *Kerma : Royaume de Nubie*, Geneva 1990, p. 11.

(2) *Ibid.*, p. 46, Ch. Bonnet, *Les Fouilles Archeologiques de Kerma*, Rapport Preliminare sur La Campagnes de 1993 – 1994 et 1994 – 1995, p. 50, fig. 20.



The paintings which found at El-Defofa al sharqeya included some scenes of boats fleets<sup>(1)</sup>, a rock painting can be added, which ornamented an obelisk, it discovered in the recent excavations<sup>(2)</sup>.

The boats which made of rock or a dust mud indicating the high adaption which reached by the boats builders, because the navigation at the cataracts is very hard, there is no doubts that the tascars were changing their boats with other suitable boats before leaving Kerma northly, the heavy ships can ascending the river easily until Nepta, about 200 km southly<sup>(3)</sup>. Near Tombs there is some remains of a great dam located near a building related to the period of Kerma classic and the beginning of the New Kingdom in Egypt, it seems that this dam erected near the city to facilitate the navigation in this region<sup>(4)</sup>.

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<sup>(1)</sup> *Id.*, *Edifices et Rites Funeraires a Kerma* , Paris 2000 , p. 70 fig 52 .

<sup>(2)</sup> *Id.*, *Kerma* , in D. Welsby , *Sudan Ancient Treasures* , London 2004, p. 87, fig. 66, Ch. Bonnet et D. Valbelle , *Les Sanctuaries de Kerma du Nouvel Empire á L'Epoque Meritique* , CRAIBL , July – October 2000, p. 123 .

<sup>(3)</sup> Ch. Bonnet , *Kerma : Royaume de Nubie* , Geneva 1990 , p. 47 .

<sup>(4)</sup> *Ibid.*

## ***The Manufacture :***

The excavations of Kerma discovered many antiques and manufactured as the pottery, the beds, the bronze tools (as daggers, knives and others), jewels and leather manufactures.

1 – The manufacture of Leather : the leather consider as one of the most important materials which found in a large amount in all the tombs , the shrouds, clothes and the bed covers were made of the leather, in the time of Kerma classic the sandals and the head garnish were made of the leather<sup>(1)</sup>. a skirts made of leather were discovered in the tombs, they were covering the corpses of the deceaseds . Also , a boxes made of leather and wood were discovered<sup>(2)</sup>.

2 – The manufacture of bones and ivory : a much of bradawls and threads were discovered in the tombs of Kerma, most of this bradawls and threads were made of the long bones of cattles and sheeps , there is a hair pin was made of the bone of ivory, additionally to daggers and knives handles were made of ivory<sup>(3)</sup>. The art of enriching

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<sup>(1)</sup> B. Gratién , *Les Kerma Cultures* , Lille III , 1978 , p. 254 .

<sup>(2)</sup> Ch. Bonnet , *Les Fouilles Archeologiques de Kerma ( Sudan )* , Geneva, vol. 43 , p. 44 , figs. 13 , 14 .

<sup>(3)</sup> Id., *Kerma Royaume de Nubia 1990* , B. Gratién , *op. cit.*, p. 254 .

developed by using the ivory of elephants which found at the uprights and the funerary bed slates in Kerma. the trceries units included a simple geometrical forms of flowers. Also, a units consisted of animals and plants forms were discovered. the sources of this kinds of arts were numerous as the local environment and the equatorial animals as elephants, giraffes, ostriches, gazelles and hyenas. the creating of the artisit is found at the trceries of the winged giraffe, the Egyptian effect is representing in the shapes of eagles, crocodiles and oxes<sup>(1)</sup>.

Many shapes which spreading out in the second intermediate period in the Egyptian history and in Syria found in Kerma , perhaps some shapes refered to the relationship between Kerma and The Hyksos in Egypt . Ch. Bonnet said that there is a relationship between the art in Kerma and the art in Ancient Iraq , he added that the ivorial manufactures which found in Palestine and related to the second bronze age which is contemporary to Kerma classic are similar to each other . the same ivorial manufactures appeared in Egypt in a very late periods, Therefore, the Egyptian connector ring is still lost until

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(1) T. Kendall , *Kerma and The Kingdom of Kush , The Archaeological Discovery of An Ancient Nubian Empire, Boston 1977, p. p. 94 – 97; Ch. Bonnet , Kerma Royaume de Nubie , the catalog 217 – 221 .*

now. The similarity between the ivory manufactures in both of Kerma and Palestine is a strange idea , but perhaps related to the relationships which was found in the period of The Hyksos dominion in Egypt between Kerma culture in Sudan, The Hyksos in the Egyptian Delta and the countries of the near east in Palestine <sup>(1)</sup>, so we can say that Kerma culture outstepped the limits of the Egyptian cultures to the Ancient near east cultures.

3 – The manufacture of beds: this manufacture flourished in Kerma, a two kinds of this manufacture found, the first one was made of wood and leather, it is in the form of rectangular frame of wood, standing over four wooden legs, the kermal bed is similar to the public sudanish bed, but they are different in the shapes of the legs, where the shapes of the kermal bed legs were cut in the form of oxes legs, their insides were ornamented by a tracieries of ivory or bones in the form of superstitious animals<sup>(2)</sup>. the second kind of the kermal beds was made of the blue vitreous marw rock, all the discovered beds found in the huge tombs.

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<sup>(1)</sup>*Ch. Bonnet , op. cit., Catalog , p. 217 , 219 , 221 , 222 .*

<sup>(2)</sup>*Wing , Africa in Antiquity , The Art of Ancient Nubia and The Sudan , Brooklyn Museum 1978 , p. 45 .*

4 – The manufacture of copper and bronze : The importing of bronze tools manufacture appeared in the period of Middle Kerma, they erected a factory for this purpose in the middle of the city, the daggers and knives were from the spreading bronze tools. this factory discovered near the niches of El-defoda al-gharbeya , where the metal was fetched to the center of the city in the form of alloys prepared in a mine located about 25 km at the northly between the rocks of the third cataract<sup>(1)</sup>.

The adaption of the manufacturer was very clear, we can distinguish it in the kind of knives, daggers, harpoons and many tools which manufactured in Kerma<sup>(2)</sup>.

A large number of daggers discovered in the excavations of Reisner, a supplementary numbers were found in the excavations of the Swiss expedition , most of them found in the burials with the tomb owner or with the children sometimes<sup>(3)</sup>. the kernal dagger is very similar to the Egyptian dagger in its manufacturing , but the kernal

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<sup>(1)</sup>Ch. Bonnet, *Un Atelier de Bronzer a Kerma, Nubische Studien, Acts de la 5<sup>th</sup> Conference International de Etudes Nubiennes, Heidelberg, 1986, p. 20 – 22.*

<sup>(2)</sup> *Id., Kerma ; Royaume de Nubie , Geneva 1990 , p. p. 49 – 50 , Id., Les Temple Principal de La Ville de Kerma et son quarter Religious , Paris 2004 , p. 34 – 35.*

<sup>(3)</sup>Ch. Bonnet , *Les Follies Archaologiques de Kerma ( Sudan ) , Rapport Preliminaire sur Les Campagnes de 1993 0 1994 , at 1994 – 1995 , Geneva , vol. 43 1995 , p. 44 – 12 .*

dagger exceeds in its height, the kernal dagger is similar to the daggers of The Hyksos in many aspects. In the period of Kerma classic, a new weapon manufactured apposite to this culture, which is the long dagger, the handle of this dagger was made of ivory<sup>(1)</sup>.

5 – The manufacture of the mud statues : a large numbers of small statues found in Kerma during the recent excavations , this statues were made of mud , their heights didn't exceed more than 10 cm , they were representing the man , animals and some geometrical forms, they didn't found before the periods of Middle Kerma and Kerma classic .

The Human statues: This kind of statues were divided into three kinds :

The First Group : characterized by the unpresence of heads, some of them contained hole at the head to fix the neck of the statue, all of this statues came from Middle Kerma .

The Second Group : the head in this kind of statues was in the form birds beaks, this kind of statues appear as one part .

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<sup>(1)</sup>B. Gratién, *Les Kerma Cultures*, p. 250, fig.57, Ch. Bonnet, *Le Temple Principal de Ville de Kerma et son Auartier Religios*, Paris, 2004, p.33 .

**The Third Group :** characterized by the developing in the forming of the body, this group characterized by a great artistic place, it is having a close relationship with a similar examples appeared in the cultures of Lower Nubia, specially The A-Group and The C-Group<sup>(1)</sup>.

**The Animal Statues:** This statues are primeval in forming, it is hard to determine the kind of the animal which the statue aimed to represent, most of them were cattles and sheeps<sup>(2)</sup>

**A Statues of another shapes :** some of them were in the form of vessels, and others in the form of geometrical shapes as the plates and ships, Reisner discovered in his excavations some examples for them, he thought that they had a religious signification, where he discovered them in Kerma near the places of praying<sup>(3)</sup>.

**6 – The Bread manufacture:** the discovering of many bakeries near the eastern entrance of the city assured the presence of public bakeries, perhaps this bakeries were in the service of a special class in the society, which may be the owners of the royal, religious and military influence .

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<sup>(1)</sup>Ch. Bonnet , *Edifices et Rites Funeraires a Kerma*, Paris 2000, p. 25 .

<sup>(2)</sup>Id., *Kerma : Royaume de Nubie*, Geneva 1990 : *The Catalog* .

<sup>(3)</sup>Ch. Bonnet , *op. cit.*, p. 194 .

However, the bread was preparing in a small places erected around a rectangular area, many people were working in this bakeries to prepare the bread<sup>(4)</sup> . The ovens were in the form of a row consisting of 10 ovens close to each other, they were working in the same time. the preparing of food was going to the royal palace, some of them were presenting as offerings, where some tombs were containing a bread was putting beside the deceased, perhaps some of this bread was presenting as offerings to the gods. it seems that this tradition continued in Upper Nubia, where we can see a groups of high brashes of bread around some temples<sup>(1)</sup> .

7 – The manufacturing and production of pottery: The pottery played a very important role in Kerma as it did in the rest of the archaeological sites, in the field of studying the developing of the city and tombs. the pottery was very important in its studying due to the absence of the written and depictive evidences. the pottery was very important in categorizing the development of the religious and civil architecture. Therefore, the pottery of Kerma occupied an essential place in the history of the African pottery<sup>(2)</sup>. the

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<sup>(1)</sup> Ch. Bonnet , *Les Temple Principale de la Ville de Kerma et son Quartier Religieux*, Paris 2004 , p. 73 .

<sup>(2)</sup> Wing , *Africa in Antiquity , The Art of Ancient Nubia and The Sudan* , Brooklyn 1978 , p. 31 , 38 .



manufacture of the pottery in Kerma take the leadership in the spreading and the quality, the people of Kerma manufactured many forms of pottery, some of them were novel, and others were extending to the pottery of past or contemporary cultures and peoples in the same region of the Nile valley, as the A-Group and The C-Group , but the kernal pottery was different in its quality, where we find that Reinsner belived that this pottery was manufactured by using the wheel<sup>(1)</sup>, but both of Adams and Trigger proved that this pottery manufactured by the hands<sup>(2)</sup>, this idea assured by the recent excavations.

The archaeological excavations gave us precious information about the presence of buildings to manufacture and burning the pottery, the places of many ovens were determined , where their traces appeared clearly at the surface of the land in the form of solid ash, a six ovens were found, they kept their original shapes in the regions which located at the northern east and the southern west of the city<sup>(3)</sup>. They are containing two kinds of ovens, one of them contained 4 ovens. each one of them was containing of a

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(1) G. Reisner , *op. cit.*, vol 6 , p. 20 – 21

(2) W. Y. Adams , *Nubia Corridor to Africa* , London 1977 , p. 209 ; Trigger , *Nubia under The Pharaohs* , London 1976 , p. 87 .

(3) Aminata Sachko , *Le Pouvoir Politique des Pays Nubiens Analyze du Termed h q 3 et Sis Applications Archeologiques* , CRIPEL , NO 17 / 3 , 1998 , p. 210 .

large circular pit, its diameter ranged between 2.70 to 4 m , its depth is 30 cm, and it surrounded by a low wall made of mud brick<sup>(1)</sup>. The other kind of ovens was cylindrical and more complicated , it was made of mud brick as the other kind, it is like other known kinds found in many sites in Sudan and Egypt. The shapes of the discovered ovens were circular, its diameters at the base ranged between 1.40 , 1 – 2 m<sup>(2)</sup>.

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<sup>(1)</sup> *H. A. Nordstrom , Pottery Production , in : D. Welsby , Sudan Ancient Treasures , An Exhibition of Recent Discoveries From The Sudan National Museum, London 2004, p. 250 – 251 .*

<sup>(2)</sup> *Ch. Bonnet , Les Fouilles Archaologiques de Kerma ( Sudan ) , Geneva , vol. 30 1982 , p. 34 – 37 .*

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