AGRICULTURE IN IRAQ
DURING THE 3rd CENTURY, A.H.

by

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ABSTRACT

The following thesis, which consists of six chapters, is concerned with the history of agriculture in Iraq during the 3rd/9th century.

The economy of the country in this century suffered from natural and political disasters, and it was also during this period that the power of caliphate authority began to weaken.

Chapter I deals with the geographical aspect of the country, its limits and its nature. It attempts to picture the system of its canalisation, levelling, survey and maintenance. Methods of irrigation both by water devices and weirs together with the drainage and reclamation of land are taken into consideration, as is the division of Iraq which was used by the existing government to supervise agricultural growth and tax collection.

In the second chapter, aspects of tenure and production form the basis of discussion. An attempt is also made to collate the climate and conditions of work of cultivators and peasants together with a brief survey of life in the villages.

This thesis pays attention, in Chapter III, to the agricultural system, to the various methods of cultivation and the implements used. Floods, disease and pests are also considered, together with crops and their distribution.

Chapter IV is devoted to the agricultural policy of the state. This is summarised under four headings and deals with the policy of irrigation, supervision of cultivation, reforms in
tax assessment and collection and reform of the revenue calendar, and also the policy of iqta’.

The fifth chapter deals with taxation, its various kinds, etc., and its assessment and method of collection, while the sixth chapter deals with agriculture as a source of revenue. It contains various accounts which represent the revenue of the period, and an attempt has been made to summarise the expenditure of the central government and the fluctuations which it caused in the revenue.

No separate survey of the sources on which this thesis was based has been made as these have been the subject of a number of extensive studies (cf. Bibliography: Barthold, Duri, Gibb, Lewis, Rosenthal and Wellhausen).
CONTENTS

Abstract .......................................................... ......................................
Table of Contents ..............................................
Acknowledgements .............................................
List of Abbreviations ...........................................
Transliteration ..................................................

CHAPTER I The Geographical Aspects of Iraq

1. The limits of Iraq during the 3rd/9th century

2. The Nature of Iraq
   a) The Soil
   b) The Rivers and Swamps
   c) The Climate

3. Canalisation system

4. Levelling, survey and maintenance

5. Methods of Irrigation
   a) Water machines:
      i) The Na‘ūr
      ii) Dūlāb
      iii) Dāliya
      iv) Shādūf
      v) Bakra
   b) Weirs, 'Qantaras'
      .i) Their location
      ii) al-Qantara al-Kabīra
         (as a specimen)

CHAPTER II
Aspects of tenure and production

1. The urban society

2. Production activities

3. The village
   a) Health conditions in the climatic zones
   b) The social structure of the village

4. Peasants and workers.

CHAPTER III
The Agricultural System

1. System of Rotation
   a) Weeding
   b) Ploughing and harrowing
   c) Clod-breaking
   d) Inversion
   e) Sowing
   f) Irrigation
   g) Reaping
   h) Preparation of Thresing-floor and bringing the harvest
   i) Threshing and winnowing
   j) Storing

2. Agricultural Calendar

3. Methods of cultivation

4. Implements
5. Pests and their extermination
6. Crops and their distribution
   a) Grain and cereals
   b) Provender
   c) Fibres
   d) Herbs
   e) Fruits
   f) Vegetables
   g) Floral products
   h) Timber

CHAPTER IV  The Agricultural Policy of the State
1. The Policy of Irrigation
2. Supervision of cultivation
3. Reforms in tax assessment and collection
4. Reforms of the revenue calendar
5. The iqṭāʾ

CHAPTER V  Taxation
1. Taxes
   a) Main taxes
   b) Additional taxes
   c) Extrinsic taxes
2. Methods of assessment
3. Methods of collection

CHAPTER VI  Agriculture as a source of revenue

Bibliography
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Lastly, but certainly not least, my sincere appreciation and thanks to my wife for her unfailing patience and support and to all those colleagues and friends from whom I have received continued encouragement.

School of Oriental and African Studies, H. El-Samarrai
LONDON.
LIST OF ABBREVIATIONS

a) Arabic and Persian works

Abūhī, Mustatraf  al-Mustatraf min Kulli fannin
mustatraf

--- Mustajād  al-Mustajād min fa‘ilat al-ajwād

'Arīb  Silat Ta‘rīkh al-Tabari, by

'Arīb al-Qurtubi  'Arīb al-Qurtubi

Athīr  al-Kāmil fi’l-Ta‘rīkh, by Ibn

al-Athīr

Baladhurī, Futuh  Futūḥ al-Bulūn

--- Ansāb  Ansāb al-Ashrāf

Bīrūnī, Chronology  al-‘Āthār al-Sāqiya ‘an ’l-qurūn

al-Khaliya

--- Jamāhīr  al-Jamāhīr fi ma‘rifat al-Jawahir

Bar Hebraeus  Chronology

Būzjānī, Ḥāwī  Kitāb al-Ḥawī lil a’mal as-Sultāniyya

Durā’ir  Hayāt al-Ḥayawān

Dhahabī, Duwal  Ta‘rīkh Duwal al-Islam

Dīmaṣqī, Ishāra  al-Ishāra ila ma’āsin al-tijara

Dīnawārī, Akhbar  Kitāb al-Akhbār a‘ījāwīl

Hamadānī, Maqamat  Ma‘amat Bādi‘ al-Zaman

Ibn al-Faqih, Buldān  Kitāb al-Buldān

Ibn Ḥamdūn  Tadhkīra

Ibn Ḥawqal, Sūra  Surat al-ard

--- Masālik  al-Masālik wa‘l ma‘ālik

Ibn Kathīr, Bīdāya  al-Bīdāya wa‘l niḥāya
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<th>Authors</th>
<th>Works</th>
</tr>
</thead>
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</tr>
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</tr>
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<td>al-Muzarā' \textit{wa'īl Kuttab}</td>
</tr>
<tr>
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<td>Mafatih \textit{al-'Ulūm}</td>
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</tr>
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<td>Safar \textit{nāma}</td>
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<tr>
<td>Nuwawī, Nihāva</td>
<td>Nihāvat al-\textit{iqāb}</td>
</tr>
<tr>
<td>Qalqashandī</td>
<td>Subh al-a'īsha</td>
</tr>
<tr>
<td>Qumrī</td>
<td>Ta'īkh-i Qum</td>
</tr>
<tr>
<td>Qudāma, Nubadh</td>
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<td>Kitāb al-‘unsāb</td>
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<td>‘Ajā’ib al-Aqālīm al-Sab‘</td>
</tr>
<tr>
<td>Sulī, Adab</td>
<td>Adab al-Kuttāb</td>
</tr>
<tr>
<td>Suyūṭī</td>
<td>Ta‘rīkh al-khulāfā‘</td>
</tr>
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</tr>
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<td>— Latā‘if</td>
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b. Modern works

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The system adopted in this thesis, which differs a little from that adopted in the *Encyclopaedia of Islam*, is as follows:

\[
\begin{align*}
\bar{a} &= 
\text{ād,}\quad & \bar{d} &= \text{š}, \\
b &= \text{b}, & t &= \text{b}, \\
t &= \text{t}, & \bar{z} &= \text{d}, \\
\bar{th} &= \text{th}, & c &= \text{g}, \\
j &= \text{j}, & \bar{gh} &= \text{g} \\
h &= \text{j}, & f &= \text{f}, \\
\bar{kh} &= \text{k}, & a &= \text{q}, \\
d &= \text{r}, & k &= \text{k}, \\
\bar{dh} &= \text{z}, & l &= \text{l}, \\
r &= \text{r}, & m &= \text{m}, \\
z &= \text{z}, & n &= \text{n}, \\
\bar{s} &= \text{s}, & \bar{u}, w &= \text{w}, \\
\bar{sh} &= \text{š}, & h &= \text{h} \\
\bar{s} &= \text{ṣ}, & \bar{i}, y &= \text{y}
\end{align*}
\]
Chapter I

THE GEOGRAPHICAL ASPECT OF IRAQ

The Limits\(^1\) of Iraq during the 3rd/9th Century

A great deal of argument seems to have arisen between the jurists concerning the acquisition of lands in Iraq.

The entire controversy centres upon those parts of Iraq which were captured by force and those which were peacefully acquired. It is important from a logical point of view, at least, to clarify this because of the relevant principles governing such ownership. In the case of land captured by Muslims it was considered 'fay' land which, theoretically, belonged to the whole Muslim community and was known as Kharaj land.

From this rose the question of the right to cultivate and the amount of tax to be levied from it. On the other hand, the land conceded peacefully was considered Sulh land and remained in the possession of its owners who paid only that amount of tax which was assessed according to the treaty of the Sulh.\(^2\)

Jurists differ concerning the identification of Kharaj and

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\(^1\)The word "Limits" as used by Arab geographers indicated "the end of a certain country", ibn Khurradadhby, Kitab al-masalik wa'l-mamalik, p.1, ed. de Goeje, Leiden, 1889; or the "ends of a province or area", ibn Jawqal, Kitab al-Masalik wa'l-mamalik, pp. 209, 210, 235, ed. de Goeje, Leiden, 1873; Yaqut, Mu'jam al-Buldan, v.III, p.135, refers to area outside which its tax-collectors had no authority.

\(^2\)Tabari, Ikhtilaf al-fuqaha’, pp. 216-222, 224; Baladhuri, Futuh al-Buldan, pp. 447-448, 455; Abu Yusuf, Kitab al-Kharaj, p.95; Abu 'Ubayd, Kitab al-anwal, nos. 141-71; Yahya ibn Adam, Kitab al Kharaj, pp. 6-7, 23.
Sulh tracts of land, which indicates the necessity to clarify the boundaries of Iraq, and Arab geographers' works are valuable in this connection.¹

In addition there is the question of the extent of each parcel of land together with its waterways and rivers. This was, perhaps, why a great deal of information about Iraq was produced. Even the Arab geographers were of differing opinions concerning those lands which were Kharaj and which were Sulh, and their uncertainty reflects, perhaps, the differences among the jurists. The Sawād of Kufa, for instance, was considered as Kharaj land both by Iṣṭakhri and Sābī,² and al-Khaṭīb al-Baghdādi produces information supporting this view, while Muqaddasi considers it as Sulh.³

Arab geographers, however, divide the great lowlands, which the Greeks called Mesopotamia, into two main provinces. The upper province, which contains the hard and stony plains, was called al-Jazīrah; and the lower province, consisting of the rich and alluvial lands known to the ancients as Babylonia, was named al-'Irāq. Unfortunately, the data given is insufficient and not definite enough to trace the limits of those provinces with complete accuracy. The term al-Sawād, which geographically almost

³Muqaddasi, Ahsan al-taqāsīm fī ma‘rifat al-aqalīr, p.133.
corresponds with al-‘Iraq was, however, used by them.\footnote{Ibn Khurrađābih, \textit{op. cit.}, p.14; ibn Rusteh, \textit{Kitāb al-‘lāq al-
nafla}, pp. 101-105; Istakhri, \textit{op. cit.}, pp. 76-9; Mas‘ūdi, al-
tanbih wa-l-‘ishrāf, p.38; ibn Ḥawqal, \textit{op. cit.}, p.234.}

Al-Sawad refers in fact to the special kind of fertile land which constitutes nearly the whole of ‘Iraqi territory. Later the term "sawād" was used to mean "the district round the city"; hence the geographers mention Sawād Baghdād, Sawād al-Basrah, Sawād al-Kūfa, Sawād Wasīṭ, Sawād Surra-man-ra‘ē and Sawād al-Anbār. Here it is abundantly clear that the meaning of "Sawād" is a particular district round each of these cities in al-Sawād or al-‘Iraq. The term was not used to describe any district outside the limits of al-‘Iraq.

Ibn Khurrađābih (250 A.H./864 A.D.) states that al-Sawād extends from al-‘Alath and Ḥarba in the north to the Persian Gulf in the south, and from Ḥulwān in the east to ‘Udhaib al-Qadisiya in the west.\footnote{Ibn Khurrađābih, \textit{op. cit.}, p.14.} These limits of the Sawād are geographers in the following century; they assign to ‘Iraq the same limits of al-Sawād with the exception of the northern side.\footnote{Istakhri, \textit{op. cit.}, pp. 76-9; ibn Rusteh, \textit{op. cit.}, pp. 104-5; Mas‘ūdi, \textit{Tanbih}, p.38; ibn Ḥawqal, \textit{op. cit.}, p.234.} Mas‘ūdi states that the limits of al-Sawād are exactly those of al-‘Iraq; this indicates that the same province has been given two names.\footnote{Mas‘ūdi, \textit{Tanbih}, p.38.}
Iṣṭakhrī (318-321 A.H./930-3 A.D.) said that al-‘Iraq extended from Takrit in the north to ‘Abbadān on the Persian Gulf in the south, and from Ḫulwaʾn in the east to Qādisiyyat al-Kuфа in the west. Moreover, he described the central part of al-‘Iraq as extending from Wasit to al-Tīb, the northern part from Samarra to Shahrazūr, and the southern part from al-Basra to the limits of Jubba. Ibn Ḥawqal (367 A.H./977 A.D.) repeats Iṣṭakhrī's definition of the limits of al-‘Iraq.  

Muqaddasi (387 A.H./997 A.D.) considers the line from al-Anbār to al-Sinn as the northern limit of al-‘Iraq.  

The limits between al-‘Iraq and al-Jazīrah varied during different epochs. According to Ibn Khurraḍādhbeh it commenced from twelve farsakhs above al-Sinn on Tigris to Ḥadīthah on the Euphrates. Iṣṭakhrī and Ibn Ḥawqal considered the northern limits of al-‘Iraq to generally coincide with a line going north from al-Anbār on the Euphrates to Takrit on the Tigris; both cities were considered as belonging to ‘Iraq.  

To summarise and conclude; ‘Iraq - consisting of al-Sawād and the Bat‘a‘īḫ, was limited by a line starting from ‘Abbadān on the Persian Gulf and running northward to Jubba, al-Tīb, Ḫulwaʾn and al-‘Alāth; thence, between 3-4 farsakhs above al-‘Alāth north-westwards to Ḥadīthah on the Euphrates, from thence southwards to al-Anbār and ‘Udḥaib al-Qādisīyyah, and continues along the western bank,

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1Iṣṭakhrī, op.cit., p.79.  
2Ibn Ḥawqal, op.cit., p.158.  
3Muqaddasī, op.cit., p.134.  
of the Euphrates, turns eastwards to include the Baṭā‘īh, to al-Basra and the Persian Gulf opposite ʿAbbādān.

Nature of al-ʿIrāq

Al-ʿIrāq is a gift of its two rivers, the Euphrates and the Tigris. Its lands, excluding al-Baṭā‘īh, are rich alluvial plains at a height of 50-100 feet above sea level. The Arabian desert comes close to the western border of the Euphrates, so that this river has no right bank affluents. The Tigris, on the other side, is completely different. The highlands of Persia follow a line standing back at a considerable distance from the eastern side of this river. This area, which lies between the Persian highlands on the east and the Tigris on the west, forms one of the richest in ʿIrāq, and, although the eastern end of it (i.e. Astan Shādh Fayruz) depends either on rains or on wells for irrigation, the larger part is well-irrigated by the Ǧāfūl al-ʿālā al-Kisrawī canal and its sub-channels.

The richest and largest cultivated area of ʿIrāq, however, lies between its two rivers to the west and south of Baghdad and to the north of the swamps. This area is irrigated by a system of canalization which connects the lower course of the Euphrates with the Tigris and makes this alluvial plain one of the most fruitful parts of the East. It is soft and almost flat; the

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1 Le Strange, The lands of the Eastern Caliphate (1930), pp. 11, 24-25; Ǧāshīmī, Mufassal Jughārāfiyat al-ʿIrāq, Baghdad (1930), p.34.

2 Ibn Ǧawqal, op.cit., p.164.

3 Le Strange, Baghdad, pp. 47-48.
river beds are shallow and exposed to rapid silting, and the banks are soft and low. The flood waters, therefore, overflow the banks easily, and as the floods are recurrent, the rivers have changed their courses creating the great swamp, known as al-Bafiha.¹

The Bafiha (Plur. Bafi‘ih) is a name applied by the Arab geographers, particularly those of the Abbasid period, to this very extensive swampy area on the lower courses of the Euphrates and Tigris between al-Kufa and Wasit in the north and al-Basra in the south.² In the north-west, al-Bafi‘ih extended almost to Kufa and Nifar; in the north east it started at al-Qatr, which was a small village at a considerable distance from Wasit, on the Tigris.³ In Hudud al-‘alam and in the Masalik of Ibn Hawqal, information is found which only concerns the northern and southern limits of the same marshland.⁴

Suhrab enumerates four of the great lagoons: - Bahassa, Bakhmaga, Bagriyathä and al-Muhammadiyyah, which last - as he said - was the largest of them all.⁵ These lagoons of open water, clear

¹Jaem, The Land of the Eastern Caliphaters, pp. 26-9; cf. Bl¹, s.v.
⁵Suhrab, op.cit., p.135; Le Strange, The Lands of the Eastern Caliphaters, p.42.
of reeds, were called Hawr or Ḥawl by the Arabs. Each Hawr had plenty of water without reeds, but each was linked to the other by a narrow passage of reeds. Beyond the Hawr al-Muḥammadīyah came the channel passing the villages of al-Ḥalūh and al-Wawāsīn and ending in the Nahr abīl-'Asad. This finally carried the waters of al-Baṭa'īh and several canals to the head of Dijlah al-‘Awra' river (one-eyed Tigris).

Ibn Rusteh says that the Baṭa'īh spreads over 30 farsakhs (about 107 m. = 172 kms.) in length and the same in width. Masʿudī estimated the total of the Baṭa'īh as 50 x 50 farsakhs. In his accounts of al-Ṣuḥayyq, an important town in the Baṭa'īh, Muqaddasi mentioned one Batīḥ of about 40 farsakhs (about 143 m. = 223 kms.), Le Strange, who made a recapitulation of the evidence of the Arab geographers, says that throughout the middle ages, the Great Swamp (i.e. Baṭa'īh) covered 50 miles across its width and very nearly 200 miles in its length.

In fact, in the area of al-Baṭa'īh, hydrography could not be static, especially since the canals and the irrigation system

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1 Suhrāb, op.cit., p.135; ibn Rusteh, op.cit., p.185.
2 Suhrāb, op.cit., p.135.
3 Ibn Rusteh, op.cit., p.94.
4 Masʿudī, Murrī, v, I, p.226.
5 Muqaddasi, op.cit., p.119.
were subject to change according to the height of the floods of the two rivers and the financial and political situation in 'Iraq.\(^1\)

Although water covered most of the land of al-Ba‘a‘ip, there were some sparse patches of dry land within the marshes which had good soil. It was cultivated and cities, villages and hamlets were formed. Canals for irrigation were also dug.\(^2\)

Ibn Rusteh describes the Bā‘a‘ip as everywhere covered by reed-beds, intersected by water channels, where immense quantities of fish were caught; these, after being salted, were despatched to all neighbouring provinces.\(^3\)

Passage through the Bā‘a‘ip was only possible by navigating narrow channels, but the level of the water was too shallow for the ordinary river boats. Only special kinds of skiffs, called Mashhūf, propelled by poles known as Mardī or Mardī (the plural of which is Marāḍī or Māḍārī) were able to be used.\(^4\)

Sawād al-Basra, however, formed the last cultivated area in 'Iraq. It extended on both sides of Dijla al-'Awra' river and had a special irrigation system. The tide was one of the principal factors of the irrigation because twice in every 24 hours it helped to raise

\(^1\) El, art. "Batīha"; Duri, Ta‘rīkh al-‘Iraq al-iqtisādī, p.9.


\(^3\) Ibn Rusteh, op.cit., p.185.

\(^4\) Istakhrī, op.cit., pp. 81-82; ibn Rusteh, op.cit., p.185; Ibn Hawqal, op.cit., pp. 238-9; also Muqaddasī, op.cit., p.19.
the level of water in Dijla al-‘awrā' with the result that it was distributed automatically throughout several canals and sub-canals on both sides of this river. This served to cultivate the Palm and other orchards which were extensive and prolific in that area.

Slowly and effectively these same tides built up a high percentage of salt throughout the extensive irrigation system.¹

Dijla al-‘awrā’ was considered to be the main drainage channel, although it drew its waters from the two Iraqi rivers, Tigris and Euphrates, and from the large marshland area of al-Bajā’iḫ. The sources refer to the Sībākh (s. = Sābkha) and these were the uncultivated areas formed by the accumulation of the salt deposit, and the inhabitants sometimes used such land to cultivate special crops which were able to be raised under the special conditions, or, in spite of large amounts of money and effort such a process would cost, it was washed and made arable, or else, cultivation was abandoned and concentration given to the production of salt.²

The ʿājām (s. ʿ Ağama) of Baṣra, however, is another term which refers to cultivateable land in the swampy area to the north of Baṣra. Such land was covered by shallow water from the surrounding swamps during the periods when the water levels rose. These areas were either used as rice-fields or were reclaimed by the use of dam...

¹Muqaddasi, op. cit., p125.
²Tabari, Annals, III, 1742; cf. EI, art. "Zandj"
It is perhaps worthy of mention here that the desert comes close to the Basra area on the western side of Dijla al-'Awra' and leaves no intermediate area between the cultivated area and the desert to the west.

During the 3rd century A.H. (9th A.D.) the climate of Iraq was probably similar to that of today; only the larger area was under cultivation. The great number of palm orchards may have mitigated the violence of the winter winds and prevented the occurrence of the sand-storms that now sweep all over the country.

Throughout Iraq, there are two pronounced seasons, summer and winter. Spring and autumn are very short. Summer begins in May and lasts until October; the heat is intense, the sky cloudless, the atmosphere dry and rain extremely rare. The prevailing north-west wind (the Shamal) is strong by day but lulls to a breeze or drops altogether at night. Though a hot wind, it brings relief because of its dryness. Autumn is more marked in the north than in the south of the country, but the season is everywhere very short. Winter comes suddenly and lasts from November to April and north-west winds still prevail. They are weaker then, however, and are frequently interrupted by depressions from the Mediterranean. In front of the south-east winds (the Sharqi) are blown cloudy skies and rain and cold. The rainfall in this season averages about

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"وفي حدود البصرة بين اضعاف قراها أجام كبيرة وطبقات اخرى يسار اليه بالمدارى قربة القصر كأنها كانت على قديم الزمان ارض مكشوفة"

Istakhrī, op. cit., pp.31-2.
5 inches, but during some winters the average is greater. Temperature lower greatly during the night and humidity rises. Frosts may occur during any of the five winter months (November to March) anywhere in Iraq, except perhaps in the southern parts. Frosts coming after rain accompany the cold winds following in the wake of the depression. Snow has been known to lie on the plains for several days. Spring, which arrives during April, is almost as fleeting as Autumn. It lasts for less than a month and brings a slight rainfall, generally accompanied by thunder. In it grass springs up with a fresh dry greeness.\(^1\)

After sundown, the temperature falls rapidly and the change from summer to winter is equally sudden. Humidity is low in summer and high in winter; much higher in the early morning than later in the day. This is the natural consequence of the fluctuation of the temperature and, although it differs in various degrees of latitude, similar conditions persist throughout Iraq.\(^2\) In spite of heavy rains at certain periods, the complexity of the climate and its extremes of heat and cold, added to the fact that the rains seem to be wrongly timed, and insufficient to give constant irrigation, the inhabitants seem to have solved the problem by the construction of irrigation canals. The population therefore,

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\(^2\)Ibid.
remains close to the canals and river-banks and the distribution of cities and villages follows the pattern of limitation.¹

Moreover, according to Qadāma, the pasturo-lands are very abundant, but the duration of verdure upon them is short and conditions for cattle-breeding are not ideal.²

Adams suggests that, from the most ancient times, the sharp division of the seasons has influenced the life of the inhabitants of Iraq. He also suggests that the changing fortunes of its people, both politically and culturally, are affected by the unusual climatic conditions.³

The official record of the Government of Iraq concerning the seasonal rhythm, as recorded at Baghdad, is given below:⁴

The Tigris and the Euphrates are the arteries not only of Iraq, but of the whole of Mesopotamia. Upon them depends the fertility of most land in Iraq, especially that in the region of al-Sawād. Irrigation depends upon the canals fed by both rivers and the location of the canals depends on their courses, the water-level in each and the height of their banks.

There are several references to floods during the 3rd/9th century. For example, Ibn al-Athīr mentions that in 205 A.H. (820 A.D.)

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¹ Duri, Ta‘rīkh al-‘Iraq al-‘iqtisādi, p.8; Hashimi, op.cit., p.34; Hamada, al-nizām al-‘iqtisādi fil‘l-‘Iraq, p.19.
² Qadāma, op.cit., p.240.
⁴ Government of Iraq, Development Board, Section No. 2 (1959), pp.4-5.
<table>
<thead>
<tr>
<th>Month</th>
<th>Mean Max.</th>
<th>Mean Min.</th>
<th>Mean</th>
<th>Mean Rainfall in mm.</th>
<th>Mean Relative Humidity</th>
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<td>Jan.</td>
<td>15.7</td>
<td>4.1</td>
<td>9.4</td>
<td>23.4</td>
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<td>7.4</td>
<td>11.7</td>
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<td>8.9</td>
<td>15.5</td>
<td>28.8</td>
<td>55</td>
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<tr>
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<td>28.8</td>
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<td>21.5</td>
<td>13.6</td>
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<tr>
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<td>19.6</td>
<td>27.4</td>
<td>3.3 (ii)</td>
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<td>31.9</td>
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<td>24.7</td>
<td>33.6</td>
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<td>16.6</td>
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<td>17.4</td>
<td>5.3</td>
<td>10.6</td>
<td>23.0</td>
<td>73</td>
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(i) Government of Iraq, Department Board, 1958, Sect. 2, pp. 4-5; Report No. 2, London, Sir M. MacDonald and Partners Ltd.

(ii) tr. = trace
the river Tigris flooded many quarters of Baghdad.\(^1\) In 206 A.H./821 A.D., the same river flooded the area of Sawād, Baghdad, Kaskar and Qaṭā at Umm Ja'far, and what due to this the agricultural product in those areas was lost.\(^2\) In Dhu‘l-hijjah 215 (January 831), according to Ṭaḥfar, the Tigris was in flood and the water overflowed the mills of the Sarāt canal; the bridges of Baghdad collapsed and a few days later more floods occurred.\(^3\) In 232 A.H. (846 A.D.), according to ibn al-Athīr, the Tigris again flooded, the Suq al-Arbi‘a‘ canal overflowed, flooding al-Rabā‘ and many of the Sūqs (i.e. markets).\(^4\)

In his Annals, Ṭabarī says that in 271 A.H. (884-5 A.D.), the western bank of Nahr-‘Isā (Isā canal) broke its banks at al-Yasiriyah, flooding Suq al-Dabbāghin (tinning market) and Suq Aṣḥāb al-Ṣāaj (toak-wood market), and some 7,000 houses were destroyed.\(^5\)

Many Arab geographers agree that the Great Swamps (i.e. the Baṭa‘ib) were formed by the floods of the two rivers.\(^6\) They also mention that flooding was the chief reason for the change in the

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2. Ibid., vol. VI, p.156.
3. Ṭaḥfar, Kitāb Baghdad, pp. 262-263.
5. Ṭabarī, Annals, III, p.2105.
courses of both the Tigris and the Euphrates.\textsuperscript{1} There appears however, to be no reference to any changes in the courses of the two rivers during the 3rd/9th century.

The level of the water in the Tigris between Baghdad and Madhāriya (the modern Kūt al-‘Imāra) is lower than that of the Euphrates between al-anbār and Mīfar.\textsuperscript{2} This probably accounts for the existence of a number of canals, which drain eastwards into the Tigris. This was, of course, most beneficial to all the lands of al-‘Iraq north of the Baṭṣ’iḥ, while to the east of the Tigris a canal, 200 miles in length and known as al-Qānūl al-‘aqīlā’ al-Kisrawl (and sometimes called the Nahrawān or Tāmarra) served the same useful purposes. This canal started from the eastern bank of the Tigris north of Sāmarra and re-entered the river in Madhāraya, fifty miles north of Wasit, thus assisting the fertility of the lands on the eastern side of the Tigris.

The rest of the Iraq land, which lies between Madhāraya in the north and the Persian Gulf in the south, was irrigated by the waters of both the Tigris and the Euphrates, either directly or through canals flowing westward from the Tigris below Fām al-Ṣulḥ to Qaṭr (or al-Qaṭr) on the north-east limits of the Baṭṣ’iḥ, and another group of them flowing eastward and westward from Dijla al-‘Awra in the area of Baṣra.\textsuperscript{3}

\textsuperscript{1}Mas‘ūdī, Muhī, I, p.227; ibn Rusteh, op.cit., p.94.
\textsuperscript{2}al-Hashimi, op.cit., p.147.
\textsuperscript{3}SUHRA, op.cit., pp.135-6.
This information is derived largely from two contemporary sources, namely Suhrāb (or Ibn Scarpion) and Ibn Khurradadhbeh. Suhrāb, who died about 900 A.D., devotes himself to tracing the network of rivers, canals and marshes. He provides the most detailed description among those of the Arab geographers.\(^1\) Ibn Khurradadhbeh has left classified information concerning the 'four irrigation areas' of Iraq.\(^2\)

Ya'qūbī, who was writing at about the end of the 3rd century A.H., and Qudāma, who wrote (approximately) during the thirties of the 4th century A.H., contain some information on this subject.\(^3\) Other, but not very detailed information, was given by Īṣṭakhrī, ibn Ḥawqal and Muqaddasī.\(^4\) Khatīb al-Baghdādī's Ta'rikh Baghdād (History of Baghdad) written about 450 A.H. (1058 A.D.), contains many full and interesting details concern the sub-canals of Baghdad in both the western and eastern quarters of the city.\(^5\)

There is further information concerning the Euphrates and the Tigris, together with pictures of the systematic canalisation of Iraq given during different later periods, especially those given

\(^1\)Ib.i.d., pp. 117-138.
\(^2\)Ibn Khurradadhbeh, op.cit., pp. 5-8.
\(^3\)Ya'qūbī, op.cit., p.244; Qudāma, op.cit., pp. 234-6, 240-42, (MS.KK.) fol. 88a.
by many Jewish travellers who visited Iraq. Among them were Benjamin of Tudela, who visited Iraq in 555 (1160 A.D.), Rabbi Petachia of Ratisbon, whose visit was between 1170 and 1187 A.D., and Rabbi Jacob, the messenger of Rabbi Jecheil of Paris, who made his visit between 1238 and 1244 A.D. Since these travellers were devoted to the enumeration of the settlements of their co-religionists in Babylonia, their information concerning the geographical aspect is broad and general.\(^2\)

Ibn Jubayr, the Spanish Arab traveller, who visited Iraq in 518 A.H. (1185 A.D.) was then on his way back from Mecca. He travelled up the great Kifā highway from the south and devoted many pages to what he saw on his way from Kifā to Baghdad. He was especially interested in the two rivers and the three canals, Sūrā al-a‘la, al-Malik and Sargār.\(^3\)

Yaqūt also, in about the year 623 A.H. (1226 A.D.) gave much valuable information about these same rivers and canals in various articles of his book.\(^4\) Studies of the following authors such as Le Strange, M. Streek, E. Horsfield, W. Willcocks, together with A.D. Dūrī, S.A. el-‘Alī, S.H. Longrigg, R. Hartmann and R.H. Adams also contribute welcome information.\(^5\)

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\(^1\) Adler, Jewish Travellers, London (1930), pp. xiv, xv, xix, 38-63, 64-91, 128.

\(^2\) Le Strange, Baghdad, p. 332.

\(^3\) Ibid., pp. 333-4.

\(^4\) Ibid., pp. 334-6.

The information given by Suhrāb is much fuller than that given by Ibn Khurraḍāḥbuh who conceives the irrigation of Iraq as composed of four units and provides a clearer picture of its structure. The following pages contain a summary of the irrigation system of Iraq, drawn from the works of Subrub and Ibn Khurraḍāḥbuh. The Sawād was divided into four irrigation parts:¹

1) The first part extended to the east of the Tāmarrā canal, between Sūlā and al-Nahrawān bridge; actually what he refers to as Tāmarrā was referred to as al-Qaṭūl al-A‘lā al-Kisrawī by Suhrāb.² Moreover, it would appear that this same canal was known by different names as it passed through different areas. At Sūlā and Ba‘qūbā the name of the upper canal changed to Tāmarrā under which name it passed on to Bājisrā and the Jisr al-Nahrawān city (Nahrawan bridge) and beyond that city was recognised as the Nahrawān canal.³ It can be said that all the land of Kurat Astān-Shādh Fayrūz (or Fulwān) depended on rains or water-wheels for fertilisation with the exception of that irrigated by the Tāmarrā canal.⁴ It would be interesting to know why Le Strange misses this point in his valuable study of Iraq.⁵

¹ Ibn Khurradāḥbuh, op.cit., pp. 5-8; Dūrī, op.cit., p.12.
² Suhrāb, op.cit., p.127.
³ Ibid., pp.127-8.
⁴ Ibid., p.127; Qudāmā, op.cit., p.234; ibn Khurradāḥbuh, op.cit., pp. 5-6.
The second area which Ibn Khurradadhbeh named as Saqqī Dijla wa Tamarrā (land irrigated by the Tigris and the Tamarrā canal), extended to the west of Tamarrā canal and lay between it and the Tigris in the west. While Ibn Khurradadhbeh describes this area as being three administrative districts or Astāns (which will be described later), Suhrāb gives a detailed description of the geographical areas irrigated by both the Tigris and Tamarrā canal in this part.2

The three districts given by Ibn Khurradadhbeh were Šādh-Hurmuz, Šādh-Qubādah and Bazījan-Khuzraw (or al Nahrawān) and together total twenty Tassūjs (sub-districts).3

Suhrāb says that al-Qāţīl al-‘A‘lā al-Kisrawī starts from the south of Dūr-Banī al-Ŷarīth, east of the Tigris and north of Sāmarra, passing through Ja‘farī, Ṭiyāḥthiyah, Muḥammadiyah, al-Ajamah, Ma‘mūniyah, Qanāṭir, Ṣūlā, Ba‘qūba, Bājisrā, Jisr al-Nahrawān, al-Šāḏhirwān al-‘A‘lā, Jisr Būrān ‘Abarta, Barzāţiyah, al-Šāḏhurwān al-Asfal and Askaf. Beyond Askaf the waterway flowed for nearly sixty miles between a continuous line of villages and cultivated land, down to Madharaya, where its waters finally rejoined the Tigris.4 Moreover, at some distance below the Muḥammadiya village, according to Suhrāb,

1 Qudama, op.cit., p.235; ibn Khurradadhbeh, op.cit., pp. 6-7.
4 Ibid., p.128.
the Qa'īl al-A'īl was joined successively by al-Qawāṭīl al-thalātha al-Suflā (the three lesser Qa'īls) known as al-Hamūdī, al-Ma'mūnī and Abu’l-Jund, which were all fed from the left bank of the Tigris near the Matirah village below Sāmarrā.  

From its right bank, and near Bājisrā, the Tamarrā canal sent the branch known as the Nahr al-Khālis, which flowed into the Tigris at Barādān to the north of Baghḍād; and from this branch many east Baghḍād canals derived their water.  

One mile below Jisr al-Nahrawān the Nahr Diyālā (i.e. Diyala canal) branched south from Nahrawān canal, and after irrigating the area which lies to the east of Baghḍād, reached the Tigris three miles south of that city.

The third irrigation area which ibn Khurradadhbeh names as "Saqī Digla wa’l Furūt" (land irrigated by the Tigris and the Euphrates), lies between Madharaya in the north, the Persian Gulf in the south, the Bāţā’īḥ in the west and the highlands of Persia in the east. He mentions that this irrigation area comprises two main districts (Astan) Shādh-Sābūr (or Kaskar) and Shādh-Baaman (or Dijlah) and that these two district included eight sub-districts (Tassujs).  

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1 Ibid.  
2 Ibid.  
3 Suhrāb, op.cit., p.128.  
4 Qudāma, op.cit., p.235; ibn Khurradadhbeh, op.cit., p.7.
that there were four canals south of Wasit, between the Tigris and the Baṣāʾīḥ; the waters of the Tigris led off through these canals flowing towards the west in this area. He gives their names as Nahr Ban, Nahr Quraish, Nahr Sayb al-ʿUqr and Nahr Bardūdī. Moreover, Suhrāb describes yet another twelve canals under the title of Anhar al-Basra, nine of them being on the western bank of Dijlah al-ʿawra, converging on to Fayḍ al-Bagra, the water from which again emptied into Dijla al-ʿawra opposite to ʿAbbādān. Their names were Nahr al-Marʿa, Nahr al-Dayr, Nahr Bاثq Shirīn, Nahr Maʿqil, Nahr ʿUbulla, Nahr al-Yahūdī, Nahr Abiʿl Khāṣīb, Nahr al-Amīr and Nahr Qandal. The other three canals run from the eastern bank of Dijla al-ʿawra and irrigate the land to the east. The names of these were Nahr al-Mubārak, Nahr al-Rayyān and Nahr Bayān. Each of these twelve canals, according to Suhrāb, was about four farsakhs long. Under the name of al-Nahr al-Jādīd (the new canal) Qudama mentions what Suhrāb calls Nahr al-Mubārak.

iv) The fourth irrigation area is that which ibn Khurradadhboh called Saqī al-Furāt wa Dujail min ghārbi Dijlah (land irrigated by the Euphrates and the Dujail canal west of the Tigris).

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1 Suhrāb, op.cit., pp. 128-9; Le Strange, Lands of the Eastern Caliphates, pp. 40-41.


3 Qudama, op.cit., p.194.
This is the largest and most productive area north of the Baja'iib up to a line between al-Anbar and Dur Bani al-Farīdh. The courses of both the Euphrates and the Tigris determine its eastern and western limits.1

Ibn Khurradadhbeh refers to this area as containing six main Asstans with a total of twenty-nine Tassujs. Suhrāb details the canalisation system in this area, and according to him the following canals were flowing westwards from the Euphrates to the Tigris: - Nahr Sa'id, Nahr Duja'il, Nahr 'Tsā, Nahr Šarser, Nahr al-Malik, Nahr Kutba and Nahr Sura al-a'ila. Suhrāb also states that the Euphrates splits into two main branches eight farsāks to the south of Kutba canal; the eastern part is called Furat al-Kufa and the only branch of this which is the Budat canal, runs from its eastern bank. Furat al-Kufa continues its course until it enters the Baja'iib at a short distance south of Kufa.

The second and the larger branch of the Euphrates, known as Sura al-a'ila (upper Sura) flows to the east of Furat al-Kufa. After irrigating the three tassujs Sura, Birbisma and Barusma, the Sura al-a'ila canal splits into two branches. The bulk of its water is absorbed by the Sarat al-Kabira canal, while its remaining water forms yet another canal, the Sura al-asfal. This latter also splits into two branches, the western part retaining the name while the eastern part becomes the

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1Ibid., pp. 235-6; ibn Khurradadhbeh, op. cit., pp.7-8.
Nars. The lower and last course of Surā al-asfal joins the Budāt, flowing eastward to unite with Nars at the Baṣā'īp. The Surāt al-Kabira follows an eastward course passing the villages of Uqr, Sabarmītā and Nawā'ir, after which it splits into two branches. The upper part retains the name of Surāt and the lower becomes the Nil. These branches join before reaching the villages of Ḥawīl and Sāhīs and the canal assumes the name of the latter village until it reaches its end.¹

**Levelling, Survey and Maintenance**

Various techniques were used by the inhabitants of Iraq during the 3rd century A.H. for land levelling. Certainly some of these methods were adopted from the Byzantines and Persians; they were also, to a certain extent, learned from the Greeks.² Some of the techniques must, however, have been the invention of the inhabitants, acquired by the practical experience of land-owners, canalbuilders and others. There is no clear evidence as to what techniques were adopted, by whom used originally, or which were developed independently by the natives of the country.

Among Arabic authors who gave detailed descriptions of levelling methods and techniques for level testing, the most prominent are Abu Bakr Ahmad ibn Wahshīyya (died 257 A.H./870 A.D.)³ in his

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¹Suhrāb, *op.cit.*, pp. 184-5.
²†, "Mīzan," s.v.
Kitāb al-filāḥa an-Nabatiya (the book of Nabataean agriculture) and Abu l'wāfa al-Būzjānī in Kitāb al-bāwī lil a'āmal as-Sultāniya wa rasūm al-hisāb ad-dīwāniya. The latter has given useful information in this context under the title "fi dhikr Mawāzin al-Ārj li hafr al-anhār al-mustajadda".¹

Būzjānī draws his information from one who appears to be a specialist in levelling instruments. He is known as Abu Abdullāh Aḥmad ibn al-Husayn al-Shaqqāq, whom he describes as "al-Shaikh al-’Imām".² As an introduction to his description of the levelling balances, Būzjānī quotes his "Shaikh" who says that the purpose of such implements is to know the methods of land level testing ("al-maqṣūdu min dhālika an yu'raf 'Ulū makan wa inbisāţ makan").³

Būzjānī, however, emphasised that his conclusion in this respect contained all the information he himself had been able to collect on the techniques in use in Iraq and Khurāsān. Some had also been learned from previous sources and others from which he had been taught, whether by written or oral means is not disclosed. ("Waqqad ataytu bi jamī‘ ma samī‘tu hu wa qara‘tu hu ‘alā Shuyukhi."")⁴


²Būzjānī, op.cit., f. 144a; Cahen, 'Le Service de l'irrigation en Iraq...', BEO, XIII, p.118; 'Documents', Ars Islamica, XV-XVI, p.24.

³Būzjānī, op.cit., f. 144a; Cahen, 'Le Service de l'irrigation en Iraq', BEO, XIII, p.119.

⁴Ibid.
In his introduction and publication of this text, Professor Cahen noted that the ancient and modern techniques confronted each other.\(^1\) The work of Būzjānī, although belonging to a later period than the one under discussion in this thesis, yet reflects knowledge which perhaps dates back to an era long before the 3rd century A.H., and emphasises the amount of knowledge which had accrued from ancient times.\(^2\)

There are three types of levelling balances mentioned by Būzjānī which were in general use in Iraq during his era.\(^3\) He gives a detailed explanation of the basic design of each type and the practical method of using it.\(^4\) He stressed, however, that the most commonly used of these balances was what he called Mīzān al-qaṣaba (reed balance) or Mīzān al-'umbūba (pipe balance): "wā hadhā al Mīzān ma yusta'malu fi akthari nawāḥī al-'Irāq al-yaum".\(^5\)

Būzjānī demonstrated how to determine the possibility of drawing water from two points at a distance from one another. One

\(^1\)Ibid., p.117.

\(^2\)Supra, p.40, fn. 3.

\(^3\)These balances were: mīzān al-Khashabah (wooden balance)

al-mīzān al-Muthallath (triangle balance)

mīzān al-umbūba (pipe balance)

In his article "al-Mīzān", Wiedemann provides a valuable study of many balances. See \textit{EI}, article, "al-Mīzān", pp. 330 ff. which gives a detailed description of each.

\(^4\)Būzjānī, op.cit., fols. 144a-b; Cahen, "Service", \textit{BEQ}, XIII, 119-121.

\(^5\)Būzjānī, op.cit., fol. 146a; Cahen, "Service", \textit{BEQ}, XIII, p.121.
example mentioned by this author shows the problems, steps and preparatory calculations together with the units of measurement which, to again quote Professor Cahen, appear to offer little mathematical interest.\(^1\) It does, however, present detailed information concerning levelling and, as such, is of special value. Buzjānī referred to ibn al-Muhandis, probably an engineer who surveyed the construction of the Takhtshīr\(^2\) canal and who, after examining the land from the suggested starting point (al-fawha), referred to as point A in the diagram to al-barr (the field), point B, carried out a survey of the land between these two points. He determined the levels of twelve selected points (in this particular example) commencing at point A (the water source) and measured the level at each point relative to the preceding one. He tabulated these measurements, listing in one column all those where the level had risen, giving them the term al-‘irtifa\(^3\) (the height) and in the second column he put all those where the level had dropped, terming them al-‘inkhifād (the depth). The table which

\(^1\)Ibid., XXIII, pp. 117-8.

\(^2\)The location of this canal is not in Iraq; Buzjānī's quotation is taken from al-Semuri (?) and other sources. On ‘hussab Khurasan al-‘adna’ he depended in his information on sources in the eastern part of the Abbasid state such as Jībāl province, Hamādān, ḑahawand and al-Kurj; cf. Cahen, "Documents", *Ars Islamica*, XV-XVI, p.24.

\(^3\)Care should be taken to distinguish clearly between the "irtifa" here, which means height. The same word is used by other Arab authors when speaking of revenue. Cf. Qudarna, as an example, says "irtifa al-Sawad ‘irtifa’ Faris", etc... meaning the total revenue from each of these areas.
follows indicates that along these twelve points there is a depth of three units (qabda)\(^1\) between points A and B.

<table>
<thead>
<tr>
<th>Points</th>
<th>Height (qabda)</th>
<th>Points</th>
<th>Depth (qabda)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 &quot;</td>
<td>2</td>
<td>7 &quot;</td>
</tr>
<tr>
<td>3</td>
<td>4 &quot;</td>
<td>4</td>
<td>6 &quot;</td>
</tr>
<tr>
<td>5</td>
<td>4 &quot;</td>
<td>6</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>7</td>
<td>5 &quot;</td>
<td>8</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>9</td>
<td>2 &quot;</td>
<td>10</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>11</td>
<td>1 &quot;</td>
<td>12</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Total</td>
<td>22 &quot;</td>
<td></td>
<td>25 &quot;</td>
</tr>
</tbody>
</table>

From this he calculated that water could run from point A to point B in instances where a canal is dug: "fadalla ḥadha l'ī'tibār 'alā 'anna l'inkhi faq ekthar min l'irtifa'bi thalāthi qabda't, fa'istadalla 'alā 'anna l'mā'yajrī munḥadaran".\(^2\)

Some information relevant to the subject of levelling was also mentioned in ibn Wahshiya's book under the titles "fi'l kalām 'an l'miyah wa-l'anhar" (on waters and rivers) and the title "fi islah al diyā" (on farm reclamation), but are considered of relatively less importance due to the inaccuracy of such information.\(^3\)

\(^1\)Grasp, or 1/12 of "dhirā' al mīzān". Cf. Hinz, Islamische masse un Gewichte, 54 ff.; Lassner, "The Habib of Baghdad", JESHO, VI (1963), pp. 228-229.

\(^2\)Buzjānī, op. cit., fol. 149a; Cahen, "Le Service de l'irrigation en Iraq", BEO, VIII, p.123.

As a part of its other functions, the Central Diwan al-Kharāj was responsible for the maintenance of water supplies, dams, weirs, banks, etc. Specialised employees were based on this Diwan and drafted when and where necessary. Land surveyors and civil engineers were always needed to assist those who were concerned with such construction and the maintenance of necessary irrigation; and to advise the digging of further canals. Specialists were also needed to supervise dredging and draining of existing waterways. The banks of canals and rivers had to be kept in repair and the responsibility for this rested with the central diwan al-Kharaj in the capital, supplemented by its branches in the provinces.

In addition to those concerned with planning, supervising the construction of canals, etc., maintenance of irrigation, a vast number of labourers were necessary. Jāḥīṣ mentions special engineers concerned with the problems of water supply (muḥandīsū 'l-mā'). When he established his capital at Samarra, the caliph Mu‘taṣim brought in engineers for this purpose from China. Būzjānī mentions supervisors of water levels, capacity and flow of the rivers, canals and sub-canals (qāīyāsun); those employed in creating new canals; dredging work (ḥaffārūn); those who carried displaced soil to strengthen outposts, dams and weirs; disposers of unnecessary rubble (nasqālūn); reed binders for the purpose of dam building (razzāmūn) were all mentioned. Lastly, he speaks of the Controller who organised all types of work according to its nature.

1Jāḥīṣ, al-tabassur bi’l-tijara, pp. 33-4.
Cahen also mentions that there were many problems relative to the digging and maintenance of canals, dams, embankments, etc. Many of these, he says, were simple everyday matters and presented few difficulties.¹

Methods of Irrigation

As already stated, the ʿīwān al-Khaṭṭār supervised the distribution of water and was primarily responsible for the construction and maintenance of canals, weirs, sluices and dams. For this purpose it employed a large number of experts in the various fields. Cultivated lands were irrigated either directly (yusqā saḥān) or by machines (yusqā bil saḥān aw ad-dālīya).² According to al-Khaṭṭār al-Baghdādī natural irrigation (yusqā saḥān) prevailed in many parts of Iraq, but he did not define these areas.³

Buṣjānī records the names of the water-machines, which were widely used in irrigation, as under:⁴

a) ʿan-Nawāʾir al-mushirāt ad-dāʿirah;
b) ad-Dawālīb;
c) ad-Dawālī;
d) ash-Shawādīf;

¹ Cahen, "Le Service de l'irrigation en Iraq", BEO, VIII, p.117.
² Abu Yūṣuf, Kitāb al-Khāṭar, p.29.
e) al-Bakrāt.

a) The Naʿūr is a water-wheel turned by the thrust of the flow of the river; the following can be derived from Būzjānī's books:

i) The standard Naʿūr carries eight tankards.

ii) The tankard capacity is fifteen rājs of water, and thus the outflow of the Naʿūr is about 1,200² rājs of water to each complete circle.

iii) It can be operated day and night continuously at an average speed of 250 revolutions per hour.

iv) About 300,000 rājs of water are needed for the irrigation of one Jarīb² which thus needs an hourly output by the Naʿūr.

In winter the output of a Naʿūr is sufficient for the irrigation of 350,000; in summer, owing to the heat and the consequent low level of the water, it can only provide enough water for 80 jarībs of cultivation.

This type of water-wheel was in general use in the Nahrawān area,³ in the western part of Badurayn to the west of Baghdad and in the northern part of the ‘Anbār area on the Euphrates.⁴

b) The dūlāb was also another type of water-wheel. It resembled the Naʿūr but was more complicated; it was slower and was operated

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¹Ibid.

²The rāj is a weight unit. Cf. Hinz, op.cit., p.31. The jarīb is a measure unit, equal to 1,592 m.sq., ibid., pp. 65-66.

³Ibn Rusteh, op.cit., p.163.

⁴Ibn al-Jawzi, Talbīs ibīlis, p.204.
by an animal - a horse or an ox - and not by water-thrust. Būzjānī has distinguished between two types of dūlāb, according to its water capacity.¹

1) A dūlāb operated by one horse or ox could irrigate 70 jarībs a day. The water supplied by such a dūlāb is sufficient to irrigate 70 jarībs of winter cultivation and 30 jarībs during the summer.

It is important to remember that the difference between winter and summer irrigation results were due to factors other than the amount of power used to drive the dūlāb. They depended rather upon climatic conditions which sped or slowed down human or animal ability. Also, during winter, rains assisted in the work of irrigation whereas in summer it was entirely dependent on artificial means. Again, water-levels, as in the case of nā'ūr, were higher in the cold weather although vegetation was less prolific. During the summer season, the dūlābs were operated by day and night, but only during the day in winter.²

These dūlābs were found in western Baghdād and were often used to irrigate gardens,³ and in the Ṭamār area, according to Qaṣī

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¹ Būzjānī, op. cit., fol. 164a; Cahen, "La Service de l'irrigation en Iraq," BEO, XIII, pp. 118-119.
² Būzjānī, op. cit., fol. 165b; Cahen, "La Service...", BEO, XIII, pp. 116-17.
Tanūkhī, ḏūlābs were operated by camels.¹

c) The dāliya (p. ḏawālī) is a water-wheel, the name for which varies according to the diameter of the pulley-block and the size of the bucket, and was operated by man-power. The buckets were made of straw mat covered both inside and out with tanned skins; Buẓjānī however, speaks of four kinds of dāliya:²

1) al-dāliya al-ḵūfīyya: the diameter of the pulley-block of this kind of dāliya varied between 20-30 ḏīrās.³ Eight men were needed to operate it, six of them to move the dāliya, one to fill the buckets and one to empty them.

2) al-dāliya al-Farisiyya (the Persian dāliya). As its name suggests, this type of dāliya may have been either developed in Persia in the earlier times and adopted in Iraq, or it may have been developed in Iraq in pre-Islamic times and remained in use during the Abbasid era; the diameter of the pulley-block of this dāliya is 24 ḏīrās. It needed seven men to operate it, five of whom turned it, one filled and one emptied the bucket.

3) al-dāliya al-muḫdatha (the modern dāliya). In this the pulley-block varied between seven to nine ḏīrās, and required three men to operate it.

¹Tanūkhī, Nishwār al-muḫdara, vol. VIII, p.139.
²Buẓjānī, op.cit., fol. 164b; Cahen, "La Service...", BEO, VIII, pp. 118-9.
³The ḏīrā is a measure unit equal to 12 ṣabāṣ and to 54.04 cms. Cf. Hinz, op.cit., p.55.
iv) al-Zarnūq (p. Zarānīq). This is a small water-wheel operated by one man and was usually built in case the water supply was insufficient for the larger types of dālīyas.

Water supplied by any of the first two mentioned dālīyas could irrigate between 6 and 8 jarībs per day. The area, in fact, varied with the water level of the source from which it was derived. According to Būzjānī the area of irrigation fluctuated during the winter between 130 and 80 jarībs, dependent on the water level and the amount of rainfall. In the summer season these figures were around 60 to 53 jarībs respectively (see table below).

The capacity of the third type (i.e. al-dālīya al-muḥdathā) was varied by the water level in addition to the size of its pulley-block. Not more than 30 jarībs in the winter season and 20 jarībs in the summer season could be irrigated by such a dālīya. The capacity of the Zarnūq was less than that of al-dālīya al-muḥdathā (see table).

Shādūf (p. Shawādīf), as described by Būzjānī, was a bucket made in a similar way to that of the dālīya.1 Shādūf required four men to operate it and could irrigate 4 jarībs daily. 70 jarībs in the winter season and 50 in the summer season could be irrigated by this means. They were used, according to Suhrāb, in the Sargar

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1 Būzjānī defines the shādūf as "د لولطيف يعمل من بواري مثل دالايلية" See Cahen, "La Service....", pp. 118-19.
canal area.¹

Bakra (p. Bakrāt), a simple draw-well drawn by a cow or an ox, had a capacity of about 200 raṣls of water. Two Bakrās could be simultaneously operated on the same well.² Muqaddasi mentioned that the Harrān area was wholly dependent on irrigation from wells, which infers that this particular kind of device was used there.³

Climatic conditions in Iraq, as previously mentioned, were generally predictable. Thus, it was possible for Būzjānī to estimate the extent of irrigation supplied by his intimate knowledge of each device in use, during both the summer and winter seasons. The following table shows the calculations he arrived at for each kind of water-raising equipment.⁴

a) refers to the size and type of the water-raising device;
b) refers to the anticipated extent of daily irrigation expressed in jarībs;
c) refers to the anticipated extent of irrigation during winter months expressed in jarībs;
d) refers to the anticipated extent of irrigation during summer months expressed in jarībs;
e) refers to the amount of water supplied daily (expressed in raṣls).

¹Suhrab, op.cit., p.127.
²Būzjānī, op.cit., fol. 165a; Cahen, "La Service...", BEQ, VIII, p.119 ff.
³Muqaddasi, op.cit., p.141.
⁴Būzjānī, op.cit., fol. 165b; Cahen, 'La Serviice...', BEQ, VIII, pp. 118-119.
<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na'ur</td>
<td>24</td>
<td>350-400</td>
<td>80</td>
</tr>
<tr>
<td>dūlāb (one ox)</td>
<td>10</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>&quot; (two oxen)</td>
<td>22</td>
<td>150</td>
<td>70</td>
</tr>
<tr>
<td>Dalīya (Kūfīyya or Farisiyya assisted by natural irrigation)</td>
<td>6-8</td>
<td>130</td>
<td>60</td>
</tr>
<tr>
<td>Dalīya (Kūfīyya or Farisiyya alone)</td>
<td>-</td>
<td>80</td>
<td>53</td>
</tr>
<tr>
<td>Dalīya (mūḍdatha)</td>
<td>-</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Shadūf</td>
<td>4</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>Bakra</td>
<td>-</td>
<td>-</td>
<td>60,000</td>
</tr>
</tbody>
</table>

**Water Regulation**

Before reviewing the available information on methods of water regulation through rivers and canals in Iraq during the Abbasid period, it is important to have a knowledge of the terms in use at that time.

It is an established fact that in Arabic philology the meaning of some terms has developed while in others it has changed with time. For instance, the term Qantara which now refers to what is known as a dam could mean either a barrier in front of which the water level rose until it overflowed, or one with various built-in...
tunnels with gates to regulate the water flow. In the latter case it was also given the name of Şadhirwan. Today in Iraq Qantara means a small bridge over a small sub-canal where pedestrians and cattle may cross. The term Nahr, which means river, was given by Arab authors to every water-course whether it was the Euphrates or the Tigris, canal or stream. In modern times it denotes the two main rivers of Iraq (Euphrates and Tigris).

Suhrāb's description of Purat al-Kūfa canal gives an extremely clear indication of what was meant by Qantara and Jįsr at that time. He states: "It passes over the Qanţara of Kūfa and on it there is a Jįsr (bridge)". About the Sūra al-a'īlā canal, he states that "After passing the Jįsr of Sūra, it reaches the Qanţara of the Qanīghān", which he described as a "Very great dam, over which the water flow is very great". With the exception of some general information concerning the location and size of some of them and the names of these qantaras or weirs, there is no information concerning their date or method of construction, capacity or ways of their operation given by the Arabic sources.¹

According to al-Khaţīb al-Baghdādī and Suhrāb, the qanṭaras depicted in the following table were found in Iraq until the end of the 3rd century A.H.²

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¹ Suhrāb, op.cit., p.135.
² Ibid., pp. 121-136; al-Khaţīb al-Baghdādī, op.cit., I, pp. 111-144.
<table>
<thead>
<tr>
<th>Canal</th>
<th>Qanṭara</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) ʻĪṣā</td>
<td>1. Dūmāmā</td>
</tr>
<tr>
<td>&amp;</td>
<td>2. al-Yāsirīya</td>
</tr>
<tr>
<td>&amp;</td>
<td>3. al-Rūmīya</td>
</tr>
<tr>
<td>&amp;</td>
<td>4. az-Za'īṣīn</td>
</tr>
<tr>
<td>&amp;</td>
<td>5. al-Asḥān</td>
</tr>
<tr>
<td>&amp;</td>
<td>6. ar-Rumman</td>
</tr>
<tr>
<td>&amp;</td>
<td>7. al-Maghīd</td>
</tr>
<tr>
<td>&amp;</td>
<td>8. al-Dustān</td>
</tr>
<tr>
<td>&amp;</td>
<td>9. al-Maʿbudī</td>
</tr>
<tr>
<td>&amp;</td>
<td>10. Būnī Zuraīq</td>
</tr>
<tr>
<td>ii) Ṣarāt</td>
<td>11. al-ʿAbbās</td>
</tr>
<tr>
<td>&amp;</td>
<td>12. as-Sīniyāt</td>
</tr>
<tr>
<td>&amp;</td>
<td>13. Rāḥāʾl bāṭirīq</td>
</tr>
<tr>
<td>&amp;</td>
<td>14. az-Zabād</td>
</tr>
<tr>
<td>&amp;</td>
<td>15. al-Qanṭara al-ʿAṭīqa</td>
</tr>
<tr>
<td>&amp;</td>
<td>16. al-Qanṭara al-Jadīda</td>
</tr>
<tr>
<td>iii) Karkhāiyā</td>
<td>17. Qāṭīʿat al-Yahūd</td>
</tr>
<tr>
<td>&amp;</td>
<td>18. Darb al-Hijārah</td>
</tr>
<tr>
<td>&amp;</td>
<td>19. al-Bimaristan</td>
</tr>
<tr>
<td>iv) Mūsā</td>
<td>20. Maqsam al-Maʿ</td>
</tr>
<tr>
<td>&amp;</td>
<td>21. al-Ângar</td>
</tr>
<tr>
<td>v) Nahrawān</td>
<td>22. al-Jaʿfariyya</td>
</tr>
<tr>
<td>&amp;</td>
<td>23. al-Qanṭara al-Kisrawīya</td>
</tr>
<tr>
<td>&amp;</td>
<td>24. asḥ-Shādhirwan</td>
</tr>
<tr>
<td>&amp;</td>
<td>25. asḥ-Shādhirwan al-aʿlā</td>
</tr>
<tr>
<td>&amp;</td>
<td>26. asḥ-Shādhirwan al-asfal</td>
</tr>
<tr>
<td>vi) Furāt al-Kūfa</td>
<td>27. al-Kūfa</td>
</tr>
<tr>
<td>vii) Šūrā al-aʿlā</td>
<td>28. al-Qanṭīghān</td>
</tr>
<tr>
<td>viii) al-Ṣarāt al-Kabīra</td>
<td>29. al-Māsī</td>
</tr>
<tr>
<td>ix) al-Qawāṭil ath-thulāṭah</td>
<td>30. Qanṭarat Waṣīf</td>
</tr>
</tbody>
</table>

Finally it should also be made clear that most of these qanṭaras were either not working or not in existence during al-Khaṭīb al-Baghdādī's life.

He stated, for example, "haddathana man adrakāhu jāriān" (i.e.
someone who has seen the water running in this river told me), and "sami’tu man yadhkur annahu tawaḍa’ minha" (I heard from those who washed from its water), or "ra’ītuhū la mā’fihi" (I have seen that river dry) and "waqad ta’attațal hādhīhī al-anhār wa darasa akțharaha hattā la yūjaadū laahu athar" (all these rivers are not running and most of them have completely disappeared). This means that roughly around the beginning of the fourth century A.H. all these qantāras and rivers were probably in existence.

The most recent and accurate research on one of these qantāras (Qantarat ash-Shadhirwān al-Asfal) was undertaken by the Directorate General of Antiquities of Iraq and carried out by a group of Iraqi and American experts. Due to the relevance of this to the present study a summary of their description of such constructions, made during the Abbasid period, is given as a model.

This weir served to raise the waters in front of it to a level of approximately 3 metres above that of the pool behind it and facilitated the water supply to eleven branch canals. It consisted of the following parts:

i) A spillway, built on a stepped brick platform,

ii) Two flanking abutments,

iii) Two frontal guide banks,

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1Al-Khāṭīb al-Baghdādī, op. cit., I, pp. 135-8.

iv) A quay or closing wall to the pool behind, and

v) Two regulators, one in the right bank of the Nahrawan and one in the left, at a short distance above the weir.

The spillway of the weir is a solid dam, 37.56 metres wide and 30,000 metres deep. It is graded in steps at its central pier and is covered on top with a concrete layer, 20 cms. thick, of a well-cemented mixture of lime, pebbles, limestone cherts and small pieces of brick.

The two abutments on both sides of the spillway must originally have been of a height sufficient to contain the water even at high flood. The right abutment, which served also as a closing wall to the pool, is built rather more solidly than the left. It is buttressed with a tower at both ends and stands on a pedestal platform as high as the spillway itself.

Each abutment extends in front of the weir into a guide bank. The first section of the guide bank on the right functions both as guide bank and closing wall to the pool; its second section serves as a closing wall only. The guide bank on the left runs approximately at right angles to the direction of the abutment and ends in a tower embedded in the left earth bank.

The closing walls to the pool served the purpose of protection against erosion by wave action and guarded the weir against being out-flanked by the pool behind it.

Above the weir, at a distance of about 140.00 metres, there was on each bank a regulator to relieve the spillway and its abutments in times of flood and to serve the general purpose of water
regulation. These regulators are built of brick and appear to date to the 9th century A.D. The arch of the regulator on the right bank is rounded and older, and was probably constructed no later than the eighth century A.D. Both regulators show vertical lines of holes in their masonry walls which were doubtless intended for the insertion of wooden beams to hold the planks in place when the sluice needed to be completely or partially closed.

Draining and Reclamation

There are no direct references in the sources to either confirm or deny the existence of a drainage system in Iraq during the Abbasid period. Neither has any recent archaeological survey revealed any proof.

There are evidences, however, that considerable territories, in the period preceding the Abbasids, were drained and reclaimed in the Baţā'îb area. Qudama ibn Ja'far states that "in the reign of Mu'tawia ibn abi Sufian, 'Abdullah ibn Darraj, a freedman of the caliph... gained from the Baţā'îb land which produced an annual income of five million dirhems. Later, Hassan, the Nabatean, a freedman of Benî Dhabba... laid dry much territory at the command of al-Walid and again later, at the command of Hisham. The work of drainage has been maintained to this day." Baladhuri states that Maslama b. 'Abdal Malik laid dry the most important region of the

1 Ibid., pp. 88-99.
2 Ibid., p. 64.
Bajīḥa by digging channels named as-Sayibaʾīn. Moreover, Balādhūrī states that many territories were drained and reclaimed in the area lying to the north of Basra and he gives a detailed list of the locations of those areas which then became the property of those who had reclaimed them.

When Qudāma records the cultivation of the Bajīḥa area, which was known to be a swamp, there must have been reclamation operations which would involve washing and draining these lands and leaching precipitated salts prior to cultivation. The phrase "digging two channels" in the Baʾaʾib (as-Sayibaʾīn) as mentioned by Balādhūrī, suggests that these were intended to be routes for water draining. The fact that there was no direct reference to the methods of draining does not necessarily determine their non-existence.

It would seem that long experience had led the farmers to adopt methods of land-reclamation, some of which are still accepted in Iraq. For example, the land was left uncultivated for a specific period and on it deep-rooted weeds like Shuḵ and 'Aqūl grown naturally. These types of weed assist the soil to get rid of excess water and salt. Russel has suggested that these deep-rooted weeds (Shuḵ and 'Aqūl) tend to dry the ground to an appreciable depth and to create a protective dry zone between the water table and the root zone. This would minimise the amount of salt which rose from the water table through capillary action.

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1Balādhūrī, op.cit., p.413.

2Ibid., pp. 407-8.

Another method for land reclamation was also in use in Iraq during the Abbasid time, viz. the cultivation of Riḍāb and Barley. Ibn Wafashya says that cultivating the land with barley year after year helps to clear salts from the soil "ḥāzā mūrī‘a al-shā‘īrū ṣanātān ba‘da sanātān laqāţa mūlāţatha wa akhrajāţa 'ānhā". This was explained in greater detail by Russel who gave the reasons why barley cultivation improves the soil:

1. In the absence of these (i.e. the plants which grow immediately after the barley harvest without any irrigation) to function at drying out the parched water table, water that is close to the surface would rise to the surface and bring salt with it.

2. These plants are legumes; they put nitrogen into the soil, thus producing valuable substance to maintain organic supply and prevent soil blowing.

3. When the second fall comes around and the villagers have ploughed, seeded, covered and then irrigated, there is a dry sub-soil, and the irrigation leaches any salts out of the surface as deep down as the water reaches. There these salts become trapped and harmless.

It should be pointed out, however, as Russel explained, that the method of land reclamation by growing barley and riḍāb cannot be repeated indefinitely. At some stage the salt concentration will prevent any type of plant cultivation and then the land has to

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3 Russel, op. cit., p. 4.
be completely abandoned. This may throw light on what Abū Yūsuf mentioned about the difficulty of reclaiming lands which were abandoned for long periods: "... fa‘mā mà ta‘allā munḏh mi‘atī sanatin wa aqālā wa akthara fa‘laṣsa yumkinū ‘imarātahū wala istikhrajahū fī qarīb".¹

Obviously this was not the only reason for abandoning the cultivation of some lands in Iraq. Various economic, social or even political factors may have been involved. Other methods of reclamation were used, such as were in the case of land covered by shallow water, especially in the Bahīya area, and Arab geographers provide some accounts of those areas where rice was grown.² This would doubtless apply specially to the shallow parts of the Bahīya and to land which had been reclaimed from the marshes (al-Jamīda) where the climate was warm and humid. Qudāma and ibn Khurradādhbeh, however, included a number of sub-districts among the statistics dealing with Sawād, where rice, in large quantities, was the chief commodity. These sub-districts were considered as part of the Baṣrā’īḥ.³ Qādī al-Tanūkhi refers to three other districts to the south-east of Kūfa (i.e. at the edge of the Baṣrā’īḥ) where rice was extensively produced.⁴ Another passage by the same author

¹Abū Yūsuf, op.cit., pp. 27-8.
⁴Tanūkhi, op.cit., vol. VIII, p.67.
refers to the rice plantations of Jāmida, the locality of Bajīpa to the south of Wāṣiṭ and to the east of the river Tigris. The region of Jāmida was considered by Canard to be the richest part of lower Iraq.\(^1\) This area, which consisted of lands which were partly dried and partly under shallow water, was included in the Bajīpa. Simple earthworks of mud and reeds were built around low-lying agricultural land in order to prevent it from being covered by water and from flooding during heavy rains.\(^2\)

**Divisions of al-‘Iraq**

When they described Iraq in the 3rd century, both Qudāma and ibn Khurraḍādhbeh enumerated twelve districts (called Astān), each containing a different number of sub-districts. These were called Tāsūj and their total number was sixty. This was probably for fiscal purposes in order to supervise the agricultural production and ensure an adequate income for the Abbāsid government by means of organising administration. This division, with perhaps a few changes – as would appear from a study of the names – was doubtless in existence prior to the Arab conquest of Iraq.

Both Qudāma and ibn Khurraḍādhbeh provide the following statistics concerning the divisions of the Sawād which are repeated by other Arabic geographers: \(^3\)

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\(^1\)Canard, *op. cit.*, p.117.


\(^3\)Qudāma, *op. cit.*, pp. 234-6; ibn Khurraḍādhbeh, *op. cit.*, pp. 5-8.
<table>
<thead>
<tr>
<th>Astān (Kura)</th>
<th>Tussuj</th>
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11. Bih-Qubādhi al-Āṣafāl: Jubbā and al-Budāt, Sura and Barbismsa, Barūsama, Nahr al-Malik. 'It has been suggested that the latter two are one Tassūj. The fourth includes al-Sayībāyn which has been transferred to al-Ḍiyā'.

12. Bih-Qubādhi al-Asfāl: Furat-Badaqīa, al-Sailaṃān, Tīstār, Rūḏhastān, Hurmuz-Jard. (It has been said that Rūḏhastān and Hurmuz-Jard are separate Ḍiyā' belonging to several Tassūjs.)

Ibn Khurradāḏbheḥ seems to coincide generally with Qudāma's statistics concerning the divisions of the Sawdād except in a few cases which probably occurred as a result of some administrative and geographical changes. He states that Astān Shādḥ-Fayrūz (or Hulwān) was attached to the Jībl province; and that Astān Shādḥ-Bahman (Dīlah) was annexed to Basra; while an un-named Tassūj was considered as part of the Bata'īb and the un-named Tassūjs of Astān Bih-Qubādhi al-Asfāl were considered as Ḍiyā' Khassāh. The above-mentioned account makes the total number of the Astāns ten and the total number of Tassūjs forty-eight.¹

Upon consulting Qudāma's list of divisions one finds that the Tassūj of Rūstaqbādhi was transferred from the Astān of Shādḥ-Qubādhi,

¹Ibn Khurradāḏbheḥ, op.cit., pp. 5-8.
which comprised seven Tassujs, to the Astān of Shādh-Hurmuz. The Astān of Bazījan-Khusraw (otherwise Nahrawān) appears in his records as Astān Arandān-Kird. The Astān of Shādh-Sabūr is called by Qudāma Khusraw-Sabūr and it includes the Tassūj of Tharthūr, which he calls al-Bazbūn.

In conclusion the province of Iraq was divided, during the 3rd/9th century, into ten districts, each one containing sub-districts which numbered 48 in all. Moreover, according to ibn Khurradadbeh, some changes took place in these divisions in about the second half of this century. The names indicate the divisions of the country taken over by the Arabs from the Sassanians. Both Qudāma and ibn Khurradadbeh mentioned that the meaning of Astān is Ḥāza. and of Tassūj is Ṯāhiya. It could therefore be said that the Arab geographers clearly indicate the origin of these terms and clarify their division. Unfortunately, however, the boundaries of the districts and sub-districts cannot be accurately determined as all Arab geographers gave only the general location of the Astāns (districts) and merely enumerate the sub-districts (ṭassuṣajs).

1Quṭba, op. cit., pp. 236-8.
Chapter II

ASPECT OF TENURE ON PRODUCTION

Sharīk, the Jurist, gives a very interesting picture of the inhabitants of the Sawād. He wrote "ahl al-Sawād ‘abīd arīqā’", the translation of which is: "The inhabitants of the Sawād are servants and serfs." This reflects not only his own view as a jurist who lived during the era preceding this study, but reflects the structure of society as it became during the period following the Arabic occupation.

It is important to clarify the nature of the relation between the urban society of Iraq and the Government, and to what extent all classes of the community, during the 3rd century A.H., depended upon the activities of the cultivators.

In his statement, Sharīk was not suggesting that the inhabitants of the Sawād were merely servants or slaves in the usual acceptance of the sense of the words. Certainly no-one can claim that they were considered, theoretically, to be in a class lower than were the Arabs during the Abbasid period. The principle of equality was proclaimed 1 by the Abbasids, and Sharīk, here, merely

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1 Tabari, Ikhtilāf al-fuqahā', p.222.
refers to the general policy towards agricultural people and reflects their importance to the service of the country.

During the Abbasid, and even in earlier periods, the Government depended on the revenue from its agriculture (the fay') to cover its expenditure (al-u‘tiyat wal-arzaq) on military and other pensions, and to strengthen and defend its borders. ¹

Any deficiency in cultivation activities by peasant or cultivator, or indeed any change in the kinds of produce, would thwart government interests as far as revenue was concerned or else lead to price inflation which would ultimately affect the Government. ²

Society also depended on agricultural produce and cultivators were compelled to work as hard as possible: in order to provide sufficient food for the needs of society. Towns were almost totally dependent for their food on the surrounding country-people. ³ Sources are unanimous in pointing out that one of the reasons why Abū Ja‘far al-Manṣūr chose the area of Baghdād as his capital was for the extensive cultivation areas in which it was situated. ⁴ A close scrutiny of the cities of Iraq

¹ Qudāma, ḫarāj (MS.KK.), fol. 89a; Sābī, Wuzara', pp. 13-29, 336-8; Miskawāh, op. cit., vol. I, p. 27; df. Dūrī, Iṣṭakhrī, p. 38; Lewis, 'Abbasids', EI², s.v.
during the 3rd century, as mentioned by Ibn Syrabiq, shows that they were in the midst of cultivated areas which provided them with food. ¹ The only helpful alternative during periods of crises was commerce. This perhaps supplies the reason why many towns were built close to rivers and canals which were the important links of transportation with trade. ³

To grant the peasant real estate or property in the land of the Sawād would undoubtedly give freedom of choice of cultivation and, as such, could be disastrous to the state. ⁴ Unless a check could be kept on the kind of crops produced, there could be a real threat to the life of the towns and to the government treasury.

Sharīq, among other jurists, defends the autocracy of the authorities and their right to direct and, if necessary, enforce the cultivation of prescribed crops. ⁵ This, he felt, was the only way to ensure the stability of the economic life of the town.

¹ Suhrāb, op.cit., pp. 121 ff.


⁴ Such a problem, in fact, faced the cultivation in the Sawād earlier during the Hajjāj term of government. It was accompanied by mass emigration from the villages to the towns. This explains why restrictions were later imposed on peasant migration by the Abbasids. See Tabari, Ta’rikh, III, p.1750.

dwellers and to strengthen the government.\(^1\) By this means wastage of cultivable land was avoided, which might have been the case without adequate control, and ensured that the right use was made of all land and the right yields were cultivated.\(^2\)

This policy, however, was bound to lead to some controversy concerned with the tenure of the land in the Sawad, where various questions were related to distinction between the right of lordship and that of possession.\(^3\) Not only this question but controversy arising as to which part of the Sawad was to be considered sulh or 'anwa land.\(^4\) On the other hand, the connection between the legal status of land and the percentage of the tax collected on the production was probably one of the major factors to be considered.\(^5\)

**Production activities**

In spite of the supervision of diwan al-kharaj, the output of production, from "milk" land seems to have been better than that of kharaj land.\(^6\) Part of the responsibility for that was,

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\(^4\) Yahya, Kharaj, pp. 6, 36, 118; Abu Yusuf, *op.cit.*, pp. 33, 36, 39; Qudama, *Kharaj*, (MS.KK.), fols. 81b, 84b, 85a, 89a; Ṣulā, Adab, vol. III, pp. 212-3; Ibn Rajab al-Ḥanbali, *Kitāb al-istikhraj* (MS.RL.), fols. 31b, 35a, 40a-b, 45a, 111a-b.

\(^5\) Abu Yusuf comments: "وَانَا ذَلِكَ إِلَىِّ النَّاسِ إِنْ رَأَىً إِنْ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَإِنْ رَأَأَىً إِنْ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ لَهُمْ عَشَارًا فَعَلَ وَاَنْ رَآَيْنَ يُسِيرُ L

no doubt, due to the personal greed of the government representa-
tives.1 Perhaps the difference between taxes levied on
kharāj-land and those on "milk" land was one of the main reasons.
It may have been that this also was the result of personal motives.

Supervision by diwān al-kharāj became sharper towards the
season of produce collection when interest was concentrated on the
amount of money or produce which could be taken without regard
to the status of cultivators.2 By contrast, the owner of milk
land (rab al-ḍayʿa) or his agent (al-waḳīl) would spend much
effort in an endeavour to solve the problems facing the cul-
tivators. He would sometimes hire additional workers to help the
peasants, and was always ready with advice and action. The con-
dition of the land, whether it needed manure, extensive ploughing
or to be allowed to lie fallow, was his first consideration.
Not only the present, but its future needs were important to him.3

In the case of tax-farming and those who took the state
lands or waqf land on lease, the main objective was to gain as
large an amount of money as possible in order to cover the amount

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1 Abū Yusuf, op. cit., p. 62.
2 Supra, p. 68, fn. 6.
3 Ibn Wahshīyya, op. cit. (MS.VL., no. 2485), fols. 24a-25a;
of their daman or lease and to add as much profit as could be collected regardless of the condition of either peasants or land.\footnote{Abu Yusuf says: "وَرَأْتِ الْإِنْتِقَالَ شَيْءًا مِنَ الْمَعْوَدِ وَلَامَعْوَدِ الْمَعْوَدُ فَانَ المَتْنُ: اذَا كَانَ فِي قَبْلَ تَفْضِيلٍ مِنَ الْخَرَاجِ عَفَّاءٌ الْخَرَاجِ وَحُمَلَ عَلَيْهِمَا مَا يَجِبُ عَلَيْهِمَا وَالْعَمْوَدُ وَأَخْرَجُهُمَا بِمَا يَجِبُ عَلَيْهِمَا وَلِيَسْلَمَنَّهُمَا بِمَا يَجِبُ عَلَيْهِمَا وَلَمْ يَحْذِرْنَهُمَا وَأَخْرَجُهُمَا. خَرَابُ الْبَلَادِ وَهَلَكُ الرَّعْمُ وَالْمَتْنُ لَا يَبَلَّلُ يَدَاءَكَمْ بِصَالَةٍ امْرِهِ."} The question of the variety of grain products also differed with the type of land tenure. In the case of the private estate (milk) the landowner could direct his produce according to the circumstances and to what he considered to be more profitable. Such land could be coverted to orchards and, if taxes were paid, there seems to have been no objection from the authorities as to what the choice was.

The books of Fiqh, however, speak of various types of tenancy such as muzāra‘a, mukhābara, musaqat, mubadhara and Kira.\footnote{Qalqashandī, Subha, vol. XIII, pp. 123-31, 139-143.} The many different terms used for tenancies reflect, in the case of al-muzāra‘a in particular, the ability of the owner to decide the kind of crops he wished to grow.\footnote{Yahya, op.cit., p.118; Abu Yusuf, op.cit., p.50; Khawārizmī, Mafatīh, pp. 16-17. cf. Løkkegaard, Islamic taxation in the Classic Period, pp. 100-101, 107, 174-175; Yusuf, 'Land, Agriculture.', IC, XXX (1957), pp. 32-3.}
Please note that application for all London University theses, whatever their college of origin, should be addressed to this Library, as above, and not to the college libraries. (College copies of theses are strictly for reference use, and may not be lent.)
In the case of Kharaj land it would seem that strict regulations were in force to control the freedom of peasants in this respect. The sources speak of letters forwarded from the capital to the 'ummal of the kharaj in the Sawad demanding that certain directions be followed in the quality and quantity of produce to be cultivated in each season.\(^1\)

The Village

Village life was little affected by the progress in towns.\(^2\)

There are no descriptions of villages in Iraq during the period under consideration and it can be said that there are few references given by Ibn Wahshiyya which could be helpful here.\(^3\) Any such references occur only in the course of discussion. They are found when he discusses the four climatic health zones of the Sawad. There he says that villages should be built on rising ground such as hillocks, if any were available; if not, an artificial elevation should be constructed of wood and mud. He gives

\(^1\)\(\text{Ṣābī, op.cit., p.216; MiskawaĪ, op.cit., pp. 27-8.}\)

\(^2\)In the second half of the 3rd century a large number of villages in the Sawad were reported as having been destroyed. This was accompanied by an administrative and ecconomic collapse; communications were interrupted, and robbery and brigandry flourished, all cultivation was impossible. \(\text{Ṭabari, Ta'rikh, III, pp. 1556, 2105; Ibn Hamdün, Taḥkira, (MS.RD), vol. IV, fol. 250a; Ibn Abī al-Ḥadīd, Ṣehīl, vol. VII, p.164; Taʾūkhi, Faraj, vol. II, p.106; Ibn al-ʿAbīrī, op.cit., vol. VII, pp. 54-5, 94.}\) Adams in \(\text{Land behind Baghdad (pp. 103-4)}\) produces an archeological survey of the area. He proves that in the early years of the 10th century A.D., 62% of all recorded settlement outside Baghdad had been abandoned. Cf. Zaidān, \(\text{Temaaddun, vol. IX, p.179; Duri, Iṭīṣaḍī, p.47.}\)

\(^3\)\(\text{Ibn Wahshiyya, op.cit. (MS.VL), fol. 23a.}\)
as an example that, when the people of 'Aqarqūfa, the area south of Baghdad, faced such a situation, they erected many structures on their alluvial plain. Such elevations served a double purpose; one for the advantage of better health and the other a better ability to watch over land cultivations and enabled them to take emergency precautions against misfortune by pest or flood or other enemy.¹

The houses were usually built either of baked or sun-dried bricks with high walls and many apertures in a position to allow sunlight and complete ventilation to purify the air and prevent septic disease. He also pointed out that isolated dwellings were preferable, but if space were confined they could be built adjoining each other on condition that the necessary ventilation was ensured. High walls were insisted upon in order to leave space for many apertures. Various kinds of tree-trunks were included in the building material for use either as columns or rafters for ceilings and the wood of the tamarisk, cypress, pine and walnut were used to line the ceiling and afterwards covered with a mixture of mud and straw.²

Ibn Wadhshiya spoke of the practice of using plaster to cover walls and floors, especially those built for storage purposes. He mentions also the necessity of a resident blacksmith, carpenter and potter among the personnel of the village to meet

¹Ibid.

the needs for implements, buildings and utensils which were necessary for the community, or were in daily use for livestock or cultivation purposes.\(^1\)

**Health Conditions in the Climatic Zones**

The Sawād produced four kinds of climatic conditions, and the health of the inhabitants of each zone varied accordingly. Ibn Wahshīyya denotes them as follows:\(^2\)

(i) **The Southern Zone**, which extends from Bābil in the north to the Persian Gulf in the south, and includes the Baṣṭāʾīḥ area as it does also the Sūrā and Barbīsmā tussajs, was the most unhealthy. He describes the climate as bad, unhealthy and pestilential, particularly at Sūrā and Barbīsmā, where humidity was extremely high and where, in spite of the precautions taken, there were frequent outbreaks of disease.\(^3\)

(ii) **The Eastern Zone** comprised the area between Ḥulwān in the North-east to Ubullah on the river Tigris in the South-west. It covered, in fact, all the north-eastern part of Iraq. The climate in this area was less humid than in the eastern zone, and

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\(^1\) He says that there was need of such craftsmen in the villages in order to preserve community life and prevent villagers from compulsory journeys to the towns, and the consequent loss of field labour involved, *ibid*.


\(^3\) He describes the condition in Ṭīmābāḏ village as:

* "ربى رما عنها فيها الوباء كثيراً"," ويعة دائماً... عفناً وعافية* while Sūrā was

*ibid.*, fol. 22b.
better weather conditions prevailed. Here they were reasonably good, epidemics were much less in consequence, and the inhabitants were much healthier than in the eastern zone.

(iii) The Northern Zone. This extended from 'Ukbarā' in the south beyond Tikrit in the north and consisted of the most important tussages in Iraq including the four surrounding Baghdad, in addition to the Sāmarrā' area and those irrigated by the Qājūl Canal. The climatic conditions in this zone were described as better than in all other zones. Epidemics were almost unknown and the inhabitants enjoyed the best health in the country.

(iv) The Western Zone lies on both sides of the upper part of the Euphrates river, within the Iraqi borders. It consists of the Anbār and the upper and lower Bājisra areas. It is described as being better when compared with the southern zone. Humidity is low and the air is fresh. Climatic conditions seem to have been reflected in the inhabitants themselves. They are described as being a mild and tender people.\(^1\) Except for these traits in character, their condition of life was similar to that of the people of the eastern zone.

Some sources, however, refer to pestilence and plagues (waba') in various parts of Iraq during the 3rd century. There is no specific definition given to this word, but the sources indicate that a large number of deaths resulted from 'waba'.

\(^1\)Ibid., fol. 23a.  
"و هو بعيد من وقوع اللواء فيه واذهب أصلع ابدانا ولاين قلبا.  "  
in various parts of the country. In this connection, severe attacks of coughing are mentioned.\footnote{In this connection Ibn al-\textit{Athîr} speaks of a common '\textit{Wabā}' prevalent in the year 258/871, but gives no specific description of this disease. \textit{Kâmîl}, vol. VI, p.31, also vol. VII, p.102.}

The Arabic books of medicine give much information concerning various types of disease and the prescriptions that promote their cure. It is, however, incorrect to claim that this particular information is given concerning cases which actually occur in Iraq. It is possible that the references are peculiar to the period under consideration. Moreover, it is abundantly clear that much of this kind of information was derived from Greek knowledge as the quotations and references show.\footnote{Martin Levey, \textit{Medieval Arabic Toxicology}, 'The Book of Poisons of Ibn Wahshiyya and its relation to early Indian and Greek texts', transaction of the American Philosophical Society, vol. 56, part 7 (1966); \textit{EI2}, 'Ibn Wahshiyya', s.v.} It can, therefore, be said that the Arabic books of medicine cannot be considered to be actually representative of the health conditions of the inhabitants of Iraq during this era.

Other sources speak of mosquitoes (\textit{baqq}) which multiplied wherever there were large areas covered with water and the climate had a high percentage of humidity. Such areas were perfect breeding grounds for these insects. It is reasonable to suppose that after each season of high flood, mosquitoes and other similar insects were more prolific and that the inhabitants of the areas...
faced the danger of malaria and other infections.\(^1\)

Several crises, probably many of this nature, had to be faced by the Iraqis during this period. There would, no doubt, be sharp rises in prices caused by flood destruction, wars and revolts which would doubtless be accompanied by the destruction of many villages or residences.\(^2\) Economic blockading, restrictions or even mass killings would probably ensue.\(^3\) The sources indicate that there was starvation in some cases.\(^4\) Whether or not the sources specifically clarify these conditions, it is presumable that their climax would be malnutrition among numbers of the inhabitants, and the human body would, because of them, be liable to attack from disease.

In addition, Ibn Wahshiyya refers to the insanitary methods of collecting rainwater for drinking purposes. Holes, he says, were dug or slopes utilised for the purpose and no care was taken to ensure that either the ground or the water was cleansed; the cattle manure was even used to cement the sides of the ponds. He advises that such practices should be abolished and that only rain-water which was collected from cleansed roofs of the houses


should be drunk. He advised that it should be directed through wooden roof-gutters into a cistern for that purpose.\(^1\)

In spite, however, of ibn Wahshiyya’s claim concerning the responsibility of landlords’ agents to provide the sick peasant with medical attention and the medicine prescribed by the doctor (†abīb) who must visit the patient\(^2\), there seems to be no evidence that this was carried out. On the contrary, Qifṭi states that until the year 301 A.H. (913 A.D.) there were no physicians in most of the Sawād area.\(^3\) It was ‘Alī ibn ‘Isā who first ordered that the Sawād must be provided with doctors whose duties were to make regular visits to all the areas, to visit the sick and supply them with medicine.\(^4\) The logical explanation of ibn Wahshiyya’s statement would appear to be that he meant ‘by the aṭība, the localexperienced herbalist.

The Social Structure of the Village

There seems to have been no change in the social structure of the villages of the Sawād. Those inhabiting the countryside

\(^1\)Ibn Wahshiyya, op.cit. (MS.VL), fol. 23a.

\(^2\)وَان يَحْضِرُ لِلَّاتِكْرَةَ فِي كُلِّ وَقَتِ يَمْرُرْ أُحَدَّهَمْ طَبِيِّبًا يَدُّنُهُ ذَلِكَ الْمَرْضَى

\(^3\)ibid.

and part of the newly created towns, were Nabateans who spoke in broken Arabic and adhered to their pre-Islamic traditions although they had been converted to Islam. The Nabateans were, in fact, the main element among the cultivators in Iraq and although people of other origins, such as Negroes and Indians, had settled among them, the peasants of the Sawad continued to be known as Nabateans. The pattern of the village seems to have been left unchanged after the Arab occupation. In order to gain a clear picture of the life in them during the 3rd century A.H., it is necessary to classify the different types of workers.

Both ibn Wafrshjyya and Šabī produce information which indicates that, with few exceptions, the landlords lived in the town and appointed agents (al-Quwam or al-Wuhata) in the villages to look after their interests. The function of the agent (al-wakil) was discussed thoroughly by ibn Wafrshjyya in a chapter entitled "fi amr al-mukalla" (on agents' affairs). After

1 Arabs and Persians formed a large percentage of Iraq's population, and were mostly townfolk, see: Tanukhi, op.cit., Vol. VIII, p.100; Mughaddasi, op.cit., p.108. Cf. Durri, Ihtisādi, pp. 47-8; Ṣam, 'Batina', s. v. In the Sawad of Bagra the Zanj were prevalent among the population. They chiefly worked in the salt-planes north of the city. See Tabari, Ta'rīkh, III, p.1742. Baladhuri says that, during the reign of Hājjaj, many tribes were taken from the Sind valley in India to the marshlands in the area of the eastern part of the Baflah. Anṣāb, vol. II, pp. 109-11.


3Ibid., fols. 23a-25b.
describing their special function he more fully details their work. This included the supplying of seed (budhūr) and implements (al-‘ālāt) and directing and supervising the daily work of the farm. It was his duty to hire extra workers when necessary and thus secure the interests of the landlord. 1

The dihqān was the Persian village chief. Professor Lambton considers his rank to be the lowest among those whose power resulted from hereditary right to administer local administration. Professor Lambton describes his position as being the most important peasant of the district and owner of a small amount of land. 2 When the Sassanid Empire was conquered by the Arabs, the dihqān - particularly in the Sawād - acted as liaison between the new Government and the inhabitants of the village. 3 Under the Abbasids, the dihqān assumed the rôle of a notable person and he was generally consulted on problems concerning irrigation and lands. 4 Moreover, new Arab landowners gradually outclassed the dihqāns whose function ' became reduced to helping in the collection of taxes; a task for which his local knowledge rendered him

1 I b i d . , fol. 25a.
2 L a m b t o n ' R e f l e c t i o n s o n t h e I q tāţ ', A r a b i c e n d I s l a m i c S t u d i e s (H o n . o f G i b b ), L e i d e n (1965), p . 3 5 9 . C f . L o k k e g a a r d , o p . c i t . , p . l i l ; D ū r i , I q t i s a d i , p . 4 8 .
3 L a m b t o n , o p . c i t . , p . 3 6 0 .
4 Y a ' qūbī, B u l d ā n , p . 2 7 3 ; S ā b ī , W a z a r ā , p p . 2 5 6 - 7 . F . Z a ī d ā n , o p . c i t . , v o l . I I , p p . 1 8 2 - 3 ; D ū r i , I q t i s a d i , p . 4 8 ,
invaluable. As a remuneration for his services the dihqān was allowed to levy a special surtax on cultivators which was known as ṣqq al-dahqāna.²

There were also the original landowners (arbāb al-ḏiyā) who, when they cultivated their own lands, were referred to as tunnā', skirra, fallāhīn and zurrā'.³ These terms appear to refer to peasants who held no fixed lease. Some of these occasionally seem to have occupied a subordinate position on ḍiyā' estates, and in some cases to possess personal property.⁴ Others were presumably day labourers.⁵

A yet lower stratum of agricultural workers was, often classed under the terms 'ulūj ahl al-qūrā' and ahl al-rasātāq, and were bound to the land as serfs.⁶

A multiplicity of manual workers was the essential factor in successful cultivation.

Landlords who had reclaimed waste land in the Sawād during earlier periods were described as ta'allafū al-skirrata wa'l-zurrā', a literal translation of which is 'they gathered peasants


⁵Abu Yusuf, op.cit., p.52.

⁶The jurists and other sources speak of this matter too broadly to provide a specific example, see Tabārī, Ikhtilāf, p.225; Abu 'Ubādā, op.cit., p.74.
and sowors'. The sources provide little information concerning their origin or the terms of their tenancy. Presumably they were natives of the areas and probably had been offered reasonable terms of employment by the landlords, or at least protection from the greediness of tax-collectors and other officials. Another alternative may have been that these peasants were brought from neighbouring land; this would, of course, mean decline in the produce of their native habitat for the benefit of the newly reclaimed lands. It would appear that most of the new landowners had acquired land which had been reclaimed. The land which had already been under cultivation must have suffered as a result of the withdrawal of workers who gave it the manuring and irrigation which had assisted its productive capacity. In addition there was the burden of taxes on the land which was deserted, and which would vest very heavily on the shoulders of those who remained. Several factors conspired to reduce the able-bodied population and the number of those who remained were often insufficient to cope with the necessary work.

So many changes took place among the original landowners of the country, brought about by a variety of reasons, during the

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1Balādhūrī, futūḥ, p.413.


period following the occupation of Iraq. Peasants were freed from Persian practices and traditions which had tied them to the land. Under the effective nomadic simplicity of character which respected freedom and the theoretical principles of Islam, concerning equality and the abolition of servitude, no steps were taken at that time to compel peasants to remain in their villages.

There were several other factors also, such as the destruction of irrigation schemes and increasing salt percentage in the cultivated land. Mal-administration which probably followed the wars, conceivably induced many to seek the towns to which peasants were encouraged to emigrate. The new cities established in Iraq, which had developed from military and administrative centres into those of trade, economy and industry, together with higher living standards, were no doubt an attraction. The need for many workers and the higher wages offered probably proved irresistible.\(^1\)

There were two classes of field hands, those of freemen and slaves. The freemen lived either in towns or villages. Ibn Wahshiyya referred to them as 'peasants and others' (min al-\(^2\)gunnā')\(^2\), and the social view accorded them precedence over

\(^1\)Arabic aristocracy welcomed the influx of labour into the towns which solved their problems. This may account for Arab opposition to Hajjaj's policy. The easier life offered to peasants under town conditions also probably accounts for their readiness to support Ibn al-Ash'\(\text{야}^\)ath's revolt. During the Abbasid dynasty there is no mention of any similar peasant mass migration. "Ašši, however, provides the general terms offered by the vizier 'Al\(\text{야}^\) ibn al-Furat to those who would return. "Ašši, Muzara', p.253.

\(^2\)Ibn washiyya, op.cit. (MS.VL.), fol.23a.
craftsmen.¹

In theory all peasants were considered to be "free" men, but in practice it was often the reverse. The peasants of the countryside were classed as being in a lower stratum of society than those of the town, and their standard of living when contrasted with theirs, as depicted by the sources, was considerably lower.²

The second and yet lower class of field workers was the slave. For various reasons their numbers were multiplied in Iraq. Wars added to their number and the captives were drafted to work on the land.³ Another source of addition was slaves who were sent from the provinces as part of the revenue payment.⁴ Again, many were purchased from slave merchants and the numbers also multiplied from breeding.⁵ They were drafted into various kinds of work. Those sent to the fields of Iraq were divided into two groups. Some were sent to do the heavier work of the land, such as lumbering, fetching, carrying and digging.⁶ In the case of the Zanj, Tabari considers them as navvies or serfs (kassābīn), working in the orchards and plains of Bagara. They

¹ al-Dimashqi, al-Ighara ila maḍāsin al-tijma, p.43.
² El, 'Nabateans', s.v.
³ Sources confirm that a large scale sale of slaves occurred after military activity by the Caliph Mu'tasim in Asia Minor.
⁴ 'Abdullāh ibn Tāhir, Amīr Khurasan, sent 2,000 slaves yearly to the central government in part-payment of revenue. See, Ibn Khurraḍāhbeh, op.cit., p.39.
⁶ L. Massignon, s.v. 'Zanj', El.
were mainly imported negro slaves. Tabari mentions that they worked in large groups, sometimes consisting of as many as 15,000, which was the number given for those working in the fields of Dujail al-Ahwaz. In the Batiha of Bagra, gangs of 500-5,000 labourers were penned, homeless and hopeless. They worked for their masters without reward; and their food, which was very poor, consisted of a few handfuls of flour, semolina and dates. Other sources speak of slaves doing the work of peasants and state that they were treated like cattle.

The second group was that of the serfs who lived in the villages and were considered as part of the land. They were transferred with the land when it passed to a new owner. Probably they were of Nabatean origin and were only considered in relation to their capacity for work.

The zitt, who were brought from the Sind valley during the Umayyad period, were also perhaps considered as serfs. Taifur, however, produces evidence of the official view in the matter of serfdom when he quotes the Caliph Ma'mun's acceptance of 'Omar's

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1 Tabari, Ta'rikh, III, p.1742.
2 Ibid., III, pp. 1748, 1750-1.
3 Abu Yusuf, op.cit., p.17; Rabii'at al-ra'i, op.cit., p.17; Muqaddasi, op.cit., p.119.
4 In his Hikaiia, Abu'l Qasim al-Baghdadi, p.87, refers to "anbaat al-qura wa 'abidiha".
view of the position of the Nabateans. This allowed any freeman to sell his Nabatean neighbour as a slave if his finances were low enough for him to be in need of the money.¹

Wages were affected by the demand for services, and whether there were many unemployed. It is highly probable to suppose that wages were considerably higher during periods of urgent need. Such periods would occur in flood seasons when dams and water-beds needed urgent repair; they would be higher during periods of ploughing, harvesting, threshing and winnowing, periods which would obviously need many more workers. ʿUzjānī speaks of payment in two ways: one was on a daily basis (muyawama) or by units.² In harvest time, it was probable that the worker received a percentage of the total produce as wages. ʿAbū Yusuf refers to the wages of those workers who divided the crops between partners. He states that they were paid direct from the total product, not in cash but in kind.³

¹Ṭaʾīfūr (Baghdād, p.73), says that the caliph Maʿmūn quoted Omar I as having said: "من كان جاره نبطيا و احتاج إلى شمه قليمه "

²ʿUzjānī (Hawī (MS.) fol. 166a) mentions those two methods. He says: "والذي جرت العادة في استياء التلع والنشاء في السكور والبزلاداس ان يذرع أوه وعرضه وسمكه . "

³Ibid., p.143b; he also mentions: "فانذا فرغت من التقدير اضفت الى ذلك اجرة الافراد ...

Chapter III
THE AGRICULTURAL SYSTEM

System of Rotation

The instructions to the farmers of Iqlîm Babil (middle of the Sawâd) contained in Kitâb al-fîlahâ al-Nabatiyya have a special value.¹ They present a vivid picture of the Rotation System in practice in Iraq during the 3rd century A.H. Its value lies in the unique information given of its own special period in contrast to that presented for earlier and later periods.² These latter, though informative, must be distinguished from this particular era. They entirely concern the century during which they were written and this must be borne in mind. Even today, instructions and examples given in the optimum books on agronomics are not more practical or realistic.³ Kitâb al-fîlahâ al-Nabatiyya can be regarded as a book on agronomics, although it contains other matters which

¹El, s.v.; infra, fn. 3, p. 87, fns. 3-5.

²In spite of Ibn Wahshiyya's remark concerning this translation of a Chaldean work, it is obvious that a large amount of the information included in Kitâb al-fîlahâ al-Nabatiyya was his own view, and the difference is clearly distinguishable.

³Von Gutsmid, 'Die Nabataisch Landwirtschaft und ihre Geschwister', Z.D.M.G., XV (1861), pp. 1-100, and Nöldeke, in 'Noch Einiges unter die "Nabataische Landwirtschaft", Z.D.M.G., XXIX (1875), pp. 445-55, stated that the Kitâb al-fîlahâ al-Nabatiyya was a forgery, dating back to the beginning of the 4th/10th century. Even with the acceptance of this view, the information thus obtained reflects the knowledge prevalent during the 3rd/9th century. Nöldeke claims that the author of the forgery was Abu Ta'lib al-Zayyat; there would, however, appear to be neither evidence nor disproof of this claim. Moreover, as ibn Wahshiyya enumerates several Greek works as one
are founded more on superstition than on realism.1

Ibn Wahshiyya sometimes quotes from earlier sources and adds his own views. His references to agricultural activities which were in practice in various parts of Iraq are most enlightening.2 He describes what he saw during his journeys through the countryside.3

In any case, as has been stated, his book represents the period under consideration and the information he gives reflects the agricultural life of his period and coincides with that from other sources of information, there would appear to be no need to emphasise it since he stresses the influence of Greek works upon it. *Ibid.*, cf. E. Wiedemann, 'Zur Nabataischen Landwirtschaft', *Z.S.I.* (1922), pp. 201-2; Fahd, 'Ibn Wahshiyya', *El*2 s.v., idem, 'Retour a ibn Wahshiyya', *Arabia* (1969), pp. 83-88.

1 In his description of the date-palm, ibn Wahshiyya mentions a special kind of weakness in some of the trees as a result of passion between them. Two trees would sometimes lean towards each other and produce a certain 'murmur' as he claims. *Kitāb al-filāḥa* (MS) No. 236 (BL), Vol. V, fol. 58ff.


and (MS. VL) fol. 72: "... فليلي الام ان ادل باجلما وسنجي جوخي..."

3 MS (BL), No. Hunt, 340, Vol. III, fols. 85:

"... وقد رايت في كثير من البلدان التي دخلتها مثل البصرة والا هواز..." after which he mentions Wasit, Kufa, Madīnāt as-Salām (i.e. Baghdad) and Qīssīn sub-district.
sources. It should, however, be noted at this stage that the most important factor from the cultivator's point of view was to obtain the largest profit during the season and that was probably the greatest incentive for his efforts. The condition of the land, or whether it had become enfeebled by over-production was a minor point of consideration. Parts of the land would reluctantly be allowed, perhaps, to lie fallow for a period and other parts which had not been cultivated would be brought into service again. The author of *Kitāb al-filāḥa* points out that the best remedy for weakened land is to let it rest, without any cultivation or even ploughing for a period. This, he said, would help it to regain its ability for profitable production. He was aware that such a method was harmful if extended over too long a period and this fact also seems to have been realised by cultivators.

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1. When ibn Wahshiyya quotes information from earlier sources, particularly when circumstances have changed concerning it, he generally comments upon it. For example, there is information quoted concerning a certain type of radish which is quoted as "ṣālim"; following this he says:

"دَرَسَتْ وَأَنْمَحَتْ وَمَا يَعْرِفُ فِي اقْلِمَةِ لِبَابِلِ وَلَا يُهْرِهُ وَلَا يَرَاهُ قَطًّا"  


A similar example occurs when he mentions one special type of onion which was known as "zīr". He speaks of its "hot" or "strong" quality, that:

"لَا يَقْوِيُ عَلَى اكْلِهٍ نَيْتَهَا وَلَا الْإِكْرَادُ وَبِحْزَةَ الجِرَامَةِ وَبِحْزَةَ كِرَةِ اقْلِمَةِ بَابِلِ"  

Ibid., fol. 200a.

2. This practice was in use in Iraq during the period under consideration. Ibn Ḥamdūn in his *Tadhkira* (MS. R.P.), Vol. IV, fol. 247a, estimates the cultivable land in Iraq as representing two-thirds of the entire total of Iraqi territory; half of this (i.e. one-third) was to be allowed to lie fallow and the other half was to be cultivated. cf. *Nusairī, Nihāya*, Vol. VIII, p.206.

Wahshiyya indeed discourses in a long passage which gives reasons and explanations as to why it is harmful to allow land to lie fallow for too long a period and reaches the conclusion that fallow land is inferior for cultivation1 ('al-ard al-bawr adwanah lil-zira'a).

A practical method of fallowing would appear to be either (a) to divide the land into two parts, cultivating one of them for one year and the other in the following year, thus allowing each part to lie fallow for one year's recuperation, repeating the process year by year.2 The alternative (b) was to cultivate part of it as summer plantation and the other for winter produce, leaving each part fallow for approximately six months.3 Both methods, however, have their drawbacks. The first necessitates the neglect of approximately half of the total cultivateable land while the practice of the second method ultimately impoverished the soil. The cultivators were, themselves, aware of these facts and many of them pursued a different course. This was the rotary system which was used in Iraq during the 3rd century A.H., a


method which can be reconstructed from the sources as follows:

a) Weeding. The cultivator must clean the field by ridding it of all kinds of weed¹ ("wa yunaqqihā min al-daghāl wa’l nabāt Kabīrihi wa Ṣaghīrihi").

b) Ploughing and harrowing. should follow the weeding and should be very thoroughly carried out. It should commence a considerable time before the season of cultivation and must be repeated at least three times. At the third or final ploughing the furrows must be wider. The sources speak of four kinds of ploughing relating to the time of each operation and the purpose of it. In this connection the Kasr, shaq, fatḥ and retaila ploughings are mentioned.²
c) Clod-breaking. At the time of ploughing and harrowing, the farmer was advised to collect and throw out any bricks or stones he might find and to crush the clods which were left.³

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²The "Kasr" was the first ploughing operation, and was made with a wide plough; the second, known as "shaqq" had closer furrows than the first, while the "fatḥ" was the third operation of ploughing in the same field. Advice was given, however, that the third step should be repeated, but not before the irrigation water had had time to become absorbed into the soil. The furrows at this third stage of ploughing should be of medium spacing at the first ploughing while in the second and final stage, the 'harth al-retaila', the furrows should be close together. Ibn Wahshiyya, al-filaha (MS. B.M.), fol. 121a-b.
³Ibid., fol. 120b.
d) **Inversion.** Twenty days before sowing or planting, the ploughed and harrowed field must be turned over and the soil completely inverted in order to gain the greatest benefit from the previous operations. The cultivator must reach the sub-soil to which the plough gives access. Without doing this all advantages of the preceding methods are lost, according to Ibn Wahshiyya.¹

e) **Sowing.** Next follows his instruction concerning sowing. This, of course, varies according to the kind of crop, the method of irrigation and the local tradition applying to various areas. The fertility of land and humidity of the season had considerable influence in this respect. Wheat and barley, for example, were sown in Iraq in three different ways. One method was by means of a plough which had an attached funnel through which the seed was dropped into the furrows.² This was described as the easiest and most effective way of scattering the correct amount of seed and ensuring its target. Another way was to sow the seeds in the field before the final ploughing took place; yet a third method was to sow the seeds after ploughing and then to cover them.³

¹Ibid., fol. 121a; ibn Wahshiyya quotes the peasants as saying:

لا حشت لمن لم يقلب


³Ibid., fol. 30b.
Ibn Waṣḥiyya says that cultivators should divide their periods of sowing into three different times of the season in order to conserve their grain. Thus, if the weather were unusually inclement, or there were a plague of locusts or other pests, one part at least of the crops would be salvaged and only part of them be lost. The early crop was called ḥarfī, the middle crop mutawassit, and that of the last sowing aflū or khiri. Another purpose of such sowing was that precautions could be taken against any exigency of blight, climate or flood.¹ Moreover, he states that the average rate of seeding for wheat should be 7-9 seeds for each hand-span of the field; for barley it should be 9-10 seeds, and for beans, chick-beans and similar crops, the average rate per hand-span should be 4-7 seeds. If the rate exceeded this average it was known as latīf rate and, if lower, as khafīf. The rate in the case of beans was one ratl for each 1,440 square dhira.² Rates would, of course, vary with the potentiality of the land and the method of its irrigation. Ibn Waṣḥiyya comments that knowledge of the fertility of the land and the advice of an expert agronomist were essential for the best results.³

¹Ibid., fols. 29a-29b.
²Ibid., fols. 65b-66a; cf. ibn al-‘Awām, op.cit., (MS B.M.), fol. 126a.
³Ibid., fol. 126a.
f) **Irrigation.** An immediate problem concerning irrigation practices was how much or how little water should be used. Too large a quantity would create the danger of a too rapidly rising water-table and excessive irrigation could create those conditions by which capillary action would bring the salino water from below up to the surface. If, on the other hand, too little irrigation water was used which was barely sufficient for the needs of the crops, no necessary surplus would be there to leach the salts deposited by previous irrigations below the root zone. The salt content in the soil would thus increase to a point of harmful concentration.¹ Unfortunately, the sources give little concrete evidence on this point.

The usual method of irrigation of cereal crops and, sometimes, even of cotton, seems to have been that of furrow irrigation. In the cases of vegetables, cotton and herbs, the field was divided into basins or beds in order to ensure thorough watering.² Orchards, trees and grapevines were commonly planted at the edge of streamlets, or small irrigation canals.³ Rice, however, required a different method. The young plants, after being transplanted, were probably either covered with shallow water continuously maintained, or

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¹Russel, op. cit., pp. 4-5.
³Ibn Wahshiyya, op. cit. (MS. V L 2485), fols. 126a-160a.
planted in shallow basins which were filled during most of the season with rising water.¹

The frequency of irrigation varied according to the kind of crops and was affected by the season. Irrigation of wheat, according to Ibn Wahshiyya, should be made five times. One was made before weeding took place; three basic irrigations were given during the growing period. The time of the fifth was optional and to be given at some time during the ripening in order to obtain a specially good yield. Sometimes a field of barley depended entirely or mostly on rain. The number stipulated for barley was similar to that for wheat, but sometimes it required only four instead of five irrigations.² For other produce, the needs for cultivation — as already stated — varied according to temperature, wind and humidity or to the special crop. For example, cotton needed regular irrigation, once in every ten days; some vegetables needed weekly irrigation while others, such as onions, carrots, turnips and similar kinds could survive for two or three weeks on one irrigation.³

g) Reaping. In Kitāb al-fīlahā al-nabatiyya the author refers to the custom of reaping the barley before the wheat.⁴ He says


²Ibn Wahshiyya, op. cit. (MS. B L Hunt 340), fols. 26a-27b, 33b-34b, 37a.


⁴Ibn Wahshiyya, ibid., fol. 37b.
that the grain must not be allowed to get too dry. He states that after reaping, the harvesters should leave it with the ears facing east and the end towards the west to ensure the correct dryness.\(^1\)

The best time for reaping was in the later hours of the day or during the early hours of dawn. At these times the atmosphere was fresh, humid and favourable to the harvesters.\(^2\) The workers seem to have been organised into groups, some busy with cutting, others with reaping the crops into small piles as a first step to assembling the entire harvest of one field in one place to convey it to the threshing floor.\(^3\)

h) **Preparation of Threshing-floor and bringing in the harvest.**

Instructions concerning the preparation of the threshing floor are also carefully detailed. The land selected must be hard, flat and an elevated site at a distance from vegetable fields, orchards or residences. After completely levelling and smoothing the ground, it should be covered with small pieces of metal and sawdust which should be rammed hard on to it. When the area was ready, the entire harvest, which had been spread around the field in small piles, was to be collected together at the threshing floor and shaped

\(^1\) *Ibid.*


into huge piles 'ba'dars' with a circular path around each one where the threshing oxen would tread. Ibn Wahiyya adds that the cultivators of the Qissin district would spread the harvested crops around during the hours of night and collect them in the morning in order to protect them from the fierce sunlight and thus prevent them from becoming completely dry.

1) **Threshing and Winnowing.** Oxen, cows, buffaloes and asses were used for the process of threshing. The teams were yoked together and moved continuously around the circular path which surrounded the ba'dar. The supervisor of the threshing would order fresh piles to be spread on the path when he was sure that the first had been properly threshed. Ibn Wahhiyya adds, moreover, that the best time for winnowing was when the **Shamal** wind blew. Winnowers, he said, should work in pairs. In the southern parts of Iraq, where temperature is high, winnowing seems to have taken place during the night.

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3 *Ibid.* (MS V L) 2483, fol. 55b; Ibn Wahhiyya, in the last paragraph of *Kitab al-filaḥa* (MS B L. Hunt 326), fol. 190a, says that a "special text was prepared by him which dealt with oxen, cows, etc."

Dr. A. Susa, in his recent study, *al-Rayy wa l Hadara*, p. 49, proves by archaeological study that buffalo were used in the Ba'fHa from about 4,500 years ago. He also suggests that those which were imported from India during the reign of Hajjaj were for breeding purposes.


3) Storing. Produce was usually kept in storage after it had been divided among the involved parties. Sources speak of the best places for this purpose. Whether these places were temporary or permanent was probably dependent on climatic conditions. Instructions were also given on the preparation of such stores and in what condition they should be maintained.

**AGRICULTURAL CALENDAR**

The book of Natabeen agriculture contains instructions to cultivators and agents of the landlords concerning calendar procedure. The author states, moreover, that the owner of a farm should keep a diary of the work day by day. In it, the author said, should be instructions for daily duties and the use of such a book was essential for the correct organisation of a farm. After that, Ibn Wašşiyya discussed thoroughly the agricultural activities and practices of his and earlier periods in a chapter entitled Bab dhikr al-'awqāt al-muwāfiqa li ṣurūb al-'a'māl.

1The collective share of the produce of the treasury was stored temporarily in the village until its final collection, and before its transfer to the **Kharāj** Storehouses. Landowners and peasants had to store their share adequately. Abu Yusuf refers to this matter and defends the peasants against any responsibility, should the government share become less. **Kharāj**, p. 62.

2Two types of storage were used in the **Sawad**; the room-shaped store in the case when the produce remained to be dealt with, while huge holes were dug in the ground when produce was to be stored for a long period. A thick layer of straw then covered the produce, and a layer of mud was added. An additional thin layer of mud might be required at the end of the next summer, but by this method the grain would keep for a considerable length of time. This practice is in current use, and is most effective. **Ibid.**, fol. 23a; cf. Ibn
In his discussion he refers to varieties of farm activities as a necessary part of seasonal changes and gives a detailed description of weather conditions and the commencing date of each season. He distinguishes between the duration of each season according to its situation in Iraq. The lower part of Iraq which he designates "bilād Jokhīl wa ahl al-maṣabb" he compares with its upper part, Iqīm Bābil. A reconstruction of his comparison appears as follows:

<table>
<thead>
<tr>
<th></th>
<th>Southern Iraq</th>
<th>Northern Iraq</th>
</tr>
</thead>
<tbody>
<tr>
<td>From   To</td>
<td>From  To</td>
<td>From To</td>
</tr>
<tr>
<td>Spring</td>
<td>10th February - 22nd May</td>
<td>21st March - 21st June</td>
</tr>
<tr>
<td>Summer</td>
<td>23rd May - 22nd August</td>
<td>22nd June - 21st September</td>
</tr>
<tr>
<td>Autumn</td>
<td>23rd August - 30th November</td>
<td>22nd September - 21st December</td>
</tr>
<tr>
<td>Winter</td>
<td>1st December - 9th February</td>
<td>22nd December - 20th March</td>
</tr>
</tbody>
</table>

It is doubtful, however, whether these limitations reflect the complete picture of the weather conditions throughout Iraq. It does,

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1Ibn Wāshīyya, op. cit. (MS. V L) fol. 23, under the title "Bab fi amr al-wuqātāt".

2Ibid, fol. 24b.

3Ibid., fol. 25a.

however, localise dates for the individual crops and assists farmers in dealing with trees and orchards.

The information given in the following pages is taken from Ibn Wahshiyya's statement and follows a similar arrangement to that given in his book, presenting the changes in agricultural operations in terms of basic activities associated with the calendar months:\footnote{\textit{Ibid.}, fols. 25b-29b.}

\textbf{MAY (‘Aīyar)}

\textit{Winter cropping}

a) harvesting barley
b) harvesting wheat and linseed in the later part of the month
c) harvesting chick-peas and lentils
d) harvesting flax

\textit{Summer cropping}

a) preparation of land for planting rice and millet
b) planting rice, millet and the early sowing of sesame
c) late planting cotton
d) weeding of cotton
e) gathering the melons, cucumbers, peas, beans, broad-beans and okra.

\textit{Trees}

a) bedding nursery plants
b) grafting grape-vines
c) hoeing around trees
d) manuring orchards

\footnote{It is interesting to compare the present agricultural calendar with those of the ancient period and of the third century. The ancient calendar can be constructed from Sumerian and Akkadian sources, cf. Landsberger, B., "Jahreszeiten im Sumerisch - Akkadischen", \textit{Journal of Near Eastern Studies} (1949), VIII, pp.248-297. The principal difference appears to be that sowing, according to the ancient calendar, was spread over periods of four months instead of three, and began in September rather than in October. Considerable attention was given, during the late Spring and Summer months, to preparatory treatment of moist land which had recently recovered from floods. In most other features, however, the calendar appears to be similar.}
JUNE (Hazīrān)

Winter Cropping

a) harvesting of late crops of wheat and linseed  
b) carting other winter cereals  
c) threshing and winnowing barley and the first  
growth of wheat  
d) the end of harvesting. Chick-peas and lentils  

Summer cropping  

a) preparation of land and planting the late crop  
of rice  
b) sowing the sesame  
c) weeding cotton  
d) sowing Indian peas (mash)  

Trees  

a) hoeing around grape-vines during the first half  
of the month and repeating the process during the  
latter half  
b) weeding the land around grape-vines  
c) gathering fig production  
d) planting asparagus and marsh-mallow  
e) spraying water on the trees in hotter districts,  
such as Ubulla and 'abdasi'.  

JULY (Tammuz)

Winter cropping

a) threshing barley and wheat  
b) ploughing and harrowing the fields after  
harvesting winter cereals  
c) cleaning the ploughed land  

Summer cropping

a) picking cotton  
b) gathering garlic  
c) planting rice  
d) picking the strawberries (‘ullaīq) from the areas  
e) planting broad-beans (baqilla)  

Trees  

a) gathering the first grapes  
b) collecting figs, apples and pears  
c) collecting the first produce from palm-trees
AUGUST (‘Ab)

Winter cropping

a) threshing and winnowing wheat and barley
b) hoeing

Summer cropping

a) picking cotton
b) gathering pomegranates
c) cultivating cabbages, spinach and lettuces

trees

a) gathering ripe grapes
b) hoeing around grape-vines (in Hulwan area)
c) spraying trees in order to preserve them from dust and pests

SEPTEMBER (Aylul)

Winter cropping

a) threshing and winnowing wheat and barley
b) sowing lentils, chick-peas
c) preparing land by ploughing and harrowing thoroughly

Summer cropping

a) picking cotton
b) harvesting millet
c) harvesting sesame
d) preparing dry straw for packing, storing and transportation of fruit; especially in the areas of Takrit, Burkawa, Yama and Sarfana in the centre of Iraq.

trees

a) final gathering of grapes

OCTOBER (Tishrin ‘awwal)

Winter cropping

a) preparing land by irrigation, ploughing and cross-ploughing for winter crops
b) preparing the land for winter vegetables
c) sowing for the early crops of wheat and barley, commencing at the second half of the month and continuing to the end of February

**Summer cropping**

a) late threshing of winter cereals  
b) picking cotton  
c) harvesting and threshing rice  
d) sowing alfalfa (the Birsim or Riṭāb)  
e) planting flax and poppy  
f) sowing broad-beans  

**Trees**

a) pruning and trimming various kinds of trees  
b) bedding nursery plants  

**NOVEMBER (Tishrīn al-`Akhīr)**

**Winter Cropping**

a) continuation of preparation for wheat and barley and linseed  
b) sowing the middle crop of barley, wheat and linseed  

**Summer cropping**

a) picking cotton  
b) final harvesting of late-planted rice  
c) threshing sesame  
d) garnering turnips, beetroot, cabbages, cauliflowers and lettuces  

**Trees**

a) planting young grape-vines in the warm spots of lower Iraq  
b) hoeing  
c) continued trimming of many kinds of trees  

**DECEMBER (Kānūn `awwal)**

**Winter cropping**

a) last sowing of barley  
b) sowing of wheat, linseed and lentils
Summer cropping

a) late picking of cotton  
b) uprooting of cotton plants  
c) burning the old roots for compost  
d) ploughing and harrowing fields for fallowing

Trees

a) manuring grape-vines and various other trees  
b) planting the chestnut during the second half of the month  
c) collecting the produce of olive and quince trees

JANUARY (Kanūn al-'Akhīr)

Winter cropping

a) late sowing of wheat  
b) cropping of winter vegetables

Summer cropping

a) sowing vegetables for early summer crops  
b) preparing and ploughing the land for cotton plants

Trees

a) hoeing and manuring  
b) pruning certain trees such as apple, pear, etc. and grafting the pruned shoots  
c) grafting almond, apricot and apple trees  
d) budding trees of fruits and roses  
e) planting seedlings of figs, pears, plums, pomegranates and apples  
f) trimming trees and palm-trees

FEBRUARY (Shbāt)

Winter cropping

a) irrigation of winter crops  
b) tending aubergine and cucumber seedlings  
c) cropping winter vegetables

Summer cropping

a) preparation of land for summer vegetables and cotton  
b) eliminating weeds
**Trees**

a) hoeing around trees  
b) manuring budded and grafted trees  
c) eliminating weeds

**MARCH** ('Adhar)

**Winter cropping**

a) irrigation of winter crops  
b) transplanting aubergines and cucumber

**Summer cropping**

a) planting for the early growth of cotton - during the second half of the month  
b) sowing summer vegetables  
c) planting rice

**Trees**

a) hoeing and manuring  
b) eliminating and destroying weeds and other harmful plants

**APRIL** (Nisan)

**Winter cropping**

a) last irrigation of winter cereals and linseed  
b) harvesting the early crops, especially barley (harfi)

**Summer cropping**

a) preparation of land for cotton and vegetables  
b) sowing vegetables  
c) sowing sorghum  
d) planting cotton

**Trees**

a) hoeing and manuring around fig, apple and pear trees  
b) propping heavily fruited branches with wooden supports  
c) eliminating weeds
Methods of Cultivation

Different methods of cultivation were practiced in Iraq which reflect the advanced level of agronomy during the period under consideration. Various procedures were adopted for cultivating the varieties of produce classed as cereals, in particular wheat and barley. For these important items, two methods of cultivation were used. In ordinary ploughed fields, where irrigation depended on rainfall (dihum)\(^1\) or watering, and those known as hiyad when the fields were divided into basins in addition to the small canals upon which the area chiefly depended for its irrigation.\(^2\)

For the cultivation of rice, different methods were practiced. Ibn Wahshiyya speaks of two ways of sowing the seed; one was to mix them together with an equal amount of earth and water, and to form small balls from the mixture.\(^3\) These, he said, should be put into holes of one dhira' in depth and covered with earth. After regular and extensive watering, several plants would commence to grow from each hole. Cultivators should then transplant them, after separating the plants in each ball.\(^4\) This transplantation usually took place by the edge of the Bajiba and in the low lands.

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\(^3\) Ibn Wahshiyya, op.cit., fol. 97a.

\(^4\) Ibid.
of the middle and south of the Sawad. Another method was to plough the field and then divide it into basins which would be filled with water. The seed was then scattered lightly on the surface of the water. When the water became absorbed the seeds were covered lightly with earth. After a few hours it was to be irrigated continuously. The irrigation water, he said, must be changed every seven days until the time of harvesting.

With the exception of such extensive irrigation, the procedure for millet cultivation was similar to that of rice.

There were, for instance, four ways of cultivating broad beans. One way was to sow two seeds in each of the holes prepared over the field; another was to use the mud-ball method, each ball containing 4-5 seeds, or sowing the seeds in basins of water on the edge of irrigation canals and covering them lightly with earth. Greens and vegetables which depended either on water tables or falls (ba'l) could not be cultivated without sufficient irrigation water sagān.

Falls of temperature, especially during winter nights, necessitated shelter for nursling plants; some vegetables needed

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2 Ibn Wahshiyya, op.cit., fol. 97b.

3 Ibid., fol. 98a.

4 Ibid., fol. 109a.

5 Ibid., fol. 1:5a.
shelter aksas, while others needed transfer to places other than
the first sowing beds, although this was not necessary for every
kind of vegetable.\(^1\)

The sources speak of a highly developed standard of knowledge
in this respect.

Date palms were cultivated either from stones, off-shoots
'fasilah', or nursling plants which usually sprang from the lower
part of the tree in vast numbers.\(^2\) By the first method, six or
seven years were needed before the tree was fully productive, whereas
by the second method it would take three to four years to fructify.\(^3\)
Naturally this was the more popular method of palm-tree culti-
vation. The proper season to transplant the nurslings was stipu-
lated as being from between March to the end of June. Inoculation
of the palm was to be undertaken by specially skilled cultivators.\(^4\)

Horticultural techniques were also well-advanced. Fruit trees
were grown either from seed or from shoots, lopped or trimmed from
the parent tree. Lopping was the popular way to increase the number
of each kind of tree.\(^5\)

\(^1\)Ibn Wahshiyya, op.cit., fols. 28b-29b.

\(^2\)Ibid. (MS. V L), fol. 211b. Cf. Duri, I'tisad, pp. 49-50;
Dabbagh, al-Nakhl wa'l tumur fi'l 'Iraq (Baghdad 1956), p.15.

\(^3\)Ibn Wahshiyya, op.cit., fols. 211b-212a; Dabbagh, op.cit., pp. 16-17.

\(^4\)Ibn Wahshiyya, op.cit., fols. 193a, 224a. cf. Duri, p.50, no. 1;
Dahirı, al-Tanmiya al-Zira'iyya fi'l mujama'at al-taqlidiyya
(Birut 1968), p.254.

\(^5\)Ibid., fols. 183a-188a.
If the ground-space were sufficient near to the vine, then layering 'tardīd' was practised to increase their numbers.\(^1\) Grafting and budding were commonly used in fruit and rose trees either to accelerate the production or to introduce new varieties. Many complicated and fully comprehensive instructions are found in the sources concerning tree-growing and horticultural establishment.\(^2\) These include advice on suitable areas and types of soil for various kinds of produce; planning irrigation channels; distances allowed between plants; fertilising, trimming and crop collecting in addition to diseases and their cure. Grafting, budding, the kind of tree which needed such action and the measures taken to ensure their success as well as the safety of the trees concerned, are all fully described.\(^3\)

Then, as now, manure played an important part in agricultural life. The book of Nabatean agriculture devoted an entire chapter to it - "fi 'l zuwāl wa anwā'ihā wa manfa'atihā wa tadbīrihā wa wehīj isti'malihā".\(^4\) The chapter deals with its preparation and effect. Ibn Wahshiyya stressed the importance of manure to agriculture in general.\(^4\) Jahiz declared that no kinds of vegetables or greens do well without its use.\(^5\) Ibn Wahshiyya

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\(^1\)Ibid., fols. 126b-130b.
\(^2\)Ibid., fols. 138a-160a.
\(^3\)Ibid., fols. 183a-188b.
\(^4\)Ibid., fols. 42b-48a.
\(^5\)Ibid., fol. 43a.
speaks of two kinds in common use by the cultivators of 'Iqlīm Bābil'. They were the natural and the composite, and the first was considered by him to be the better.\(^1\) There were three types of this:

a) Dove dung; animal droppings and human excrement;

b) Straw, dry stems and leaves from almost all kinds of cultivation;

c) Ash and cinders derived from burnt straw and any kind of vegetation.

Composite manure was a mixture containing several kinds of natural manure in addition to similar quantities of earth with added water, and left until it decomposed and putrified. It should then be spread to dry before it was used to fertilise the soil.\(^2\) Ibn Wahshiyya spoke of the correct kind of manure for each plantation. He describes a method which was... to put the manure near to the tree roots, and to irrigate the deposit after covering it with earth. Another method, used in the case of vegetables, manure was spread over the irrigating canals near to the plants. He enumerates the plants which do not need manure and those to which it was even harmful or dangerous.\(^3\)

The sources speak of special local trade in manure.\(^4\) Ibn Wahshiyya, on two separate occasions, refers to hampers of manure.

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1 Supra, p. 108, fn 4.

2 Ibid., Cf. Ibn al-'Awwām, op.cit., f l. 25b.

3 تَلَهَكَهَا الزِّبُل..."والشَّجَارَاتِ لاَ تَحَتَّاجِ إِلَىَّ تُزْبِيلٍ...والَّلَّيْيَ يَضِرْهَا الزِّبُلَ...وَالَّيْيَيْ..."

Ibn Wahshiyya, op.cit., fol. 33a.

4 Jahiz, Dalā'il, p.25. f. Durū, p.49.
sold to the cultivators.\(^1\) This is confirmed by the other sources, especially during later periods.\(^2\)

**Implements**

Neither is detailed information concerning implements which were used for agricultural purposes or for farming activities forgotten. Buṣjānī, as already stated, provides ample information on this point.\(^3\) Except, however, definitions taken from Arabic dictionaries and the occasional references found in other sources;\(^4\) the fullest are those given by Ibn Wāshīyya in the book of Nabatean Agriculture.\(^5\) He wrote a complete chapter under the title "mā Yaḥtāj 'ilāhi al-fālāfīn" (on the basic needs of the peasants). It includes the various implements used for the day to day work in the fields.\(^6\) Except for the introduction of a few modern techniques, the methods in use to date are similar to those used by Iraqi cultivators during the various periods of medieval history. They may, perhaps, be described as primitive, but they were ample to meet the needs of cultivators over many centuries. Ploughing was by means of the simple plough mīḥrāth; and this was made in three types: sikkah, disūl and tamūn. The first was the coulter,

\(^1\) Ibn Wāshīyya, *op. cit.*, fol. 33b.


\(^4\) For example, Ibn Sīda, *Mukhassas*, vol. VIII, pp. 91, 98, 117-8, 120, 141-143, 177, 182.

\(^5\) Ibn Wāshīyya, *op. cit.*, (MS. V L), fols. 28a-29b.

\(^6\) *Ibid.*, *Jāhīz, Dalā’il*, p. 28; *Rasā‘il ikhwan al-Ṣafā‘*, vol. I, p. 217,
made of iron; the second was entirely of wood while the third was a wooden frame covered with leather and was attached to the ox, cow or horse which pulled it. The size of the sikkah varied according to the ploughing needed. For the first ploughing of fallow land where the soil needed to be turned deeply, and a deep furrow was necessary, a sharp long coulter known as al-sikak al-withāq al-tawīla was used. When cultivators wanted to prepare long trenches across a field, a large, wide coulter known as al-sikak al-‘irād al-kabīra was the correct implement. The sikak al-retaila was the most effective instrument for closely cut furrows. Besides these implements which served the purposes of ploughing, there was the mijrad which would be used to level the land after ploughing.

Peasants worked in the fields using mattocks (miqāqa), harrows (mi‘rafā), spades (kurak), shovels (mishāt), hoes (mi‘zaqah) and hatchets (fa‘s) to level and smooth the land, and dig holes or trenches for guiding or directing irrigation water; wooden harrows (majārīf khashabīyya) were also used for several purposes, such as separating cereals from straws or in preparing artificial manure.

cf. Dūrī, Iqtiṣādi, p.49.

1Ibn al-‘Awwār, op.cit., fols. 16a, 121b-121a.
2Ibid., fol. 121 b.
3Ibid., fol. 170a.
For purposes of harvesting, reaping and destruction of harmful plants and weeds, either wide sickles (minjal) or scythes (mihash) were used.\(^1\) Stone rollers and wooden mallets levelled the threshing place and smoothed its surface, while simple wooden winnowing forks were used for winnowing.\(^2\) The sources ignore the implements for threshing. It is therefore presumable that the same methods were as at the present time, i.e. by yoking the animals together and using them to tread the grain.

Specialist cultivators of horticulture used several different implements in the course of their work. There were three types of knives; a sharp, medium sized one which was used for trimming; a short sharp one suitable for grafting and budding, while the third was semi-circular, especially shaped to cut palm leaves and branches.\(^3\) Special sharp-edged iron pipes were used to cut incisions for budding and to prepare similar incisions in the tree on which budding was to take place.\(^4\) Wax, clay-mud and rags were also used for the purposes of budding and grafting.\(^5\) Ropes and props helped to straighten the growth of plants or to support trees during the fruit-bearing season.\(^6\) There were other useful

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\(^1\)Ibid., fol. 29b.

\(^2\)Ibid., fols. 55b-56a.

\(^3\)Ibid., fols. 138a, 183a-188a; Ibn al-’Awwām, op.cit., fols. 82a, 93b.

\(^4\)Ibn al-’Awwām, op.cit., fol. 95b.

\(^5\)Ibid., Ibn Wahshyya, op.cit., fols. 183a-188a.

\(^6\)الحبال والدعائم تمثل بها المعوجة وتند الحاملة, "Ibid., fol. 37b."
accessories such as adzes, baskets, straw mats and brooms.  

Finally, oxen, cows, buffalo, horses and sometimes camels had their place in farming activities. They operated water-wheels and other water-raising devices. Two animals were used to pull the plough where ground was hard, while one was sufficient for wheat fields or easy land. Oxen were usually employed at threshing time and to operate the mills. They were indispensable to the peasants.

In his recent study of ancient irrigation in Iraq, Susa affirms that buffalo were numerous and widespread in early times. He, however, rejects the idea that Mājjaīj imported buffalo from India during the Umayyad period and suggests that such a report may refer to the introduction of a stronger strain of cattle for breeding purposes.

Pests and their extermination.

The sources seem to have ignored the problem of pests. No reference to wild and harmful animals, insects or disease is made in

\(^1\)Ibn Wahshiyya, op. cit., fol. 57a; Ibn al-'Awwam, op. cit., fols. 155a-b.


\(^3\)Buzjani, loc. cit.

\(^4\)Ibn al-'Awwam, op. cit., fol. 17a.

\(^5\)Dimashqī, Ishāra, p. 38. He says

\(^6\)Susa, al-Rayy wā'ī hadāra, p. 49.
most of the contemporary sources. Ibn Wahshiyya, however, refers casually to vermin (al-hawam) and mentions only snakes, vipers and scorpions in the same manner. Ibn al-'Awwam, who quotes from several contemporary books, some of which have disappeared, gives more detail. In addition to those spoken of by Ibn Wahshiyya, he mentions wild rabbits, rats, foxes, jackals and wild boars. In al-Mukhassas, Ibn Sīda (d. 458 A.H./1065 A.D.) adds weasels, hedgehogs, jerboas, ichneumon, mastigures and hyenas to the number. Insects such as mosquitos, flies, ants and spiders are mentioned and one hundred and fifty different kinds of well-known birds are enumerated. Locusts are the only pest commonly mentioned by the sources and they are mentioned specifically when swarms of them attacked produce. Climatic conditions either deter or assist the destruction caused by them. In the years, when rainfall was high, the swarms found their food in the desert plantations where they were hatched. When the season of cultivated growth commenced early, they did comparatively little damage, but when growth was late the picture was different. The next hatching of flying locusts will cross cultivated fields and greedy

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1 Ibn Wahshiyya, op. cit. (MS. V L), fol. 23b.
3 Ibn Sīda, Mukhassas, vol. VIII, pp. 91, 98, 117-8, 120, 141-3, 177, 182.
swarms will descend on the crops. The greatest danger is when both a shortage in rainfall and late growth combine.\(^1\) Ibn Wahshiyya suggests either fumigation of orchards during an attack by locusts or the destruction of their eggs during the hatching period.\(^2\) Unfortunately, the sources provide no evidence as to whether these suggestions were effectively used.

Under the title 'bab mīṭaṭ al-hinja wa'1-sh.îr', Ibn Wahshiyya wrote a chapter discussing the diseases which attacked wheat and barley.\(^3\) He suggested ways in which to examine these crops in order to discover whether or not they were perfect. He refers to certain changes in the natural condition of wheat and barley which caused a bad smell, and changed both the colour and the taste. Ibn Wahshiyya does not name the disease, but indicates clearly that cultivators faced such pests.\(^4\) There is no evidence, however, that his suggestions of remedy for this and other diseases which attacked other crops, such as cotton or trees, were effective or even whether they were practised.


\(^2\)He refers to that in 'bab na’rīfat al-‘illa fi’l fasād al-‘ārid li7 na‘āt...’, *Filaha* (MS. V L), fols. 35b-37b.

\(^3\)Ibid., fol. 56b.

\(^4\)Ibid.
Crops and their distribution

Research into Jurist precepts is rewarded by much information concerning crops and their distribution in Iraq. Other sources also reveal the methods of taxation and administration adopted after the period of Arab occupation. Added to these sources are the records of the varieties of corn grown there. Geographers and travellers while recording their experiences in that country, frequently mention the native produce. All the sources, including historical writings, poetry, literature, culinary arts and medicine, perhaps unwittingly, add to the knowledge of the abundant produce of the country.

There were various methods adopted for the classification of the crops and several lists are extant in which they are listed according to the purpose of their preparation and value in the life of the community. For example, earlier sources speak of certain taxable kinds of crops such as wheat, barley, grapes, dates, alfalfa, cotton, sugar and sesame. From this can be deduced their importance to the economic life of that time.

No concrete evidence or accurate information is available concerning which part of Iraq specialised in, or was concerned with any particular product, nor the average quantity of each item produced. The list referred to above ignores other important Iraqi produce, such as rice, which formed a major part of the country's food. From this it would appear that each of these sources was

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1 For example see Abū Yūsuf, op.cit., p.30.
2 Yahyā, op.cit., pp. 78-9; Abū Yūsuf, op.cit., p.40.
chiefly concerned with the produce which affected their native cities. These are mentioned under headings which listed various products calculated on a similar price scale, and perhaps this classification of agricultural produce served the ultimate purpose of tax assessment and collection.

Būzjānī, in his Kitāb al-hawā‘īl li‘l a‘māl al-Sulṭāniyya wa rasūm al-hisāb al-dīwāniyyah, which dates from the second quarter of the 11th century A.D., furnished valuable information in a section entitled 'fi‘a‘īnās al-kubūb wa tasnīfihā' (on kinds of cereals and their classification). According to him, different types of grain and of some other agricultural and horticultural produce were categorised by fiscal authorities under four basic headings according to their values.² This was done in order to facilitate the assessment of these commodities.³ These four classes were sesame, wheat, barley and junkundum, and each included a list of various species similar in value.⁴

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² He says: "ان الفرز من تجنيس اصناف الحبوب ردها إلى صفوف واحد ليتميّز القيم والحجز والتقدير والصرف وذلك ان الإصناف اذا كرت لم يمكّن ذلك فيه." 

³ Būzjānī states that 'لان اسامار الخلالات بنواحي السواء مساوية لما جنسهما ومقاربا له على الأكثر".

sesame category included curin, mustard, coriander, caraway, poppy and lucerne seed. The category classed with wheat consisted of chick-peas, haricot beans, lentils, linseed, garden cress, fenugreek, safflower, raisins, sumac, shelled almonds, shelled hazel-nuts, hemp-seed; while was classed with barley were whole rice, varieties of millet and oats.

Moreover, Bużjani refers to another category of species produced in the Sawād, the prices of which differed from the standard value of the other four. The most important of those, in the district of Sawād, were unshelled nuts, almonds, pistachios, chestnuts, jujubes and hazelnuts; dry pears and stoneless peaches.

It is presumable that this method, as explained by Bużjani, followed that used in an earlier century, and was perhaps even practised in the 1st century A.H. Changes in the detail were probably the outcome of change in quality and quantity, and the demand would also probably affect the price. The seeds of lucrene were probably more valued during that century, which perhaps explains why it was given prominence as a heading. Grapes were


1 Bużjani, op. cit., fols. 173a-b. cf. Ehrenkreutz, op. cit., p.50.

2 Abū Yusuf, op. cit., p.30. Bużjani says: "و ها هنا صنف آخر لا يقع عليها التصرف والأكثر يكون في الشمبلوت والبق والبندق المقرر والكسيرة الياس والخرز المقدر وغير ذلك لا يدخل فيها تصرف من الحبوب" which is on fol. 173b.

highly valued as is shown by their importance among the headings. This may offer an acceptable reason why many other products, such as rice, were not given the same status by earlier sources.¹

The Jurists, on the other hand, distinguish between perishable and durable products and list them accordingly.²

Other Arabic sources give a picture of agriculture in Iraq during the 3rd century and trace the variety of its produce. Not only from geography and administrative history, but also other sources, supply much detail. One of those is the agrotechnical tract *Kitāb al-Fīlāhah al-nabāṭiyya* of Ibn Wahišiyya, who died in 291 A.H., who was, himself, a contemporary of the period under consideration.³ Another source is *Kitāb al-nabāṭ* of Abū Ḥanīfa al-Dīynawārī, by whom a large amount of information concerning the agricultural production of the Arab lands is given, including references to those who produced it in Iraq.⁴

There is yet more to be traced from the *Kitāb al-fīlāhah* (the *Book of Cultivation*) of Abū Zakariyya Yahyā ibn Muḥammad ibn ʿAlī ibn al-ʿAwwām, who drew his information from al-Rāzī, Iṣḥāq ibn Sulaimān, Abū Ḥanīfa al-Dīnakārī, amongst several other authors. He provides much relevant information concerning the

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¹Yahyā, op.cit., pp. 78-9.
²Qudāma, *Khāraż* (MS.KL), fol. 88b.
³*Supra*, p. 86, fns. 2, 3.
methods employed for cultivation of crops, the technical skill involved and the implements used. He gives specific information concerning production in Iraq and quotes the various sources from which it is taken. During this period the crops of Iraq seem to have been classified under the following headings:

1) Grain and cereals
2) Provender
3) Fibres for textiles
4) Herbs
5) Fruits
6) Vegetables
7) Floral products
8) Timber

Another factor re-occurring throughout the writings of all the sources is the effect of the seasons. There is a sharp

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1 Ibn al-‘Awwām states that he largely depended on Kitāb al-Filaha al-nabatiyya (op.cit., fols. lb-2a).

"قال مؤلف هذا الكتاب نقلت إلى هذا الكتاب ما اشتهى عنده انه يوافق الجزء العربي من الأندلس .. فأن اقليم بابل في الأقليم الرابع"

Sometimes the author is directly referred to, while at others indirect references are made. e.g., he says:

fol. 25b  "اما صاحب الفلاحة النبطية فذ كـ

fol. 120b  " ومن الفلاحة النبطية في ذلك قال .........

fol. 123b  " قال ابن وحسنـية "

and fol. 155a  " جرت العادة في اقليم بابل "

He frequently uses the figure T (b) of which he says in his introduction that it will abbreviate kitāb al-filaha of Ibn Wahshiyya.
demarcation between the products of the winter season and those produced in the summer. The extreme contrasts of the seasons provide the real basis of classification, and it is irrelevant in which month of the year plantation or seeding commences, as far as growing the produce is concerned, although Ibn Wāshshīyya gives the exact date of commencement and climatic conditions of each of the four seasons.¹

The aim of the following pages is to survey the most effective products of Iraq.

Wheat and barley were cultivated wherever there were water supplies and wherever agriculture had been preserved. With the exception of the Bājīha area and a few other places in the north east, they were widely cultivated all over the province. The Kharāj Tax of the Sawād, as shown by Qudāma and Ibn Khurradādhwah was paid chiefly in wheat and barley. Moreover, according to these authors, each of the districts of the Sawād provided the treasury with a certain quantity of both these kinds of grain which indicates that both were cultivated in every district of the Sawād.²

¹Ibn Wāshshīyya, op.cit., fol. 25 a.

²Qudāma, Nubādh, pp. 236-7; Ibn Khurradādhwah, op.cit., pp. 8-14.
Tabari describes the four districts lying both to the east and
to the west of Baghdad, as extensively productive areas and gives
it as one of the reasons why the Caliph Mansur chose it in which
to establish his capital.\(^1\)

The importance of these four districts which produced large
quantities of wheat and barley during the 3rd century, when its
production was considered by government as a reserve to solve the
continual crises of price inflation.\(^2\) Both ibn Jawqal and
Istakhrī described the area between Baghdad in the north, Kūfa
in the south, the Tigris in the east and the Euphrates in the
west, as being most extensively cultivated, and that it was
difficult to distinguish between the separate plantations.\(^3\)

The lands irrigated by the Nahrawān canal were considered
by ibn Jawqal as large scale production areas.\(^4\) The same description
he applied to the Sawad of Samarra.\(^5\) Ya‘qūbī also refers to
the seven dayas of Samarrā as one of the most extensive areas of
production.\(^6\) The Wāsīt area is also described by ibn Jawqal as an

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Cf. Muqaddasi, Ahsan, pp. 119-120; Tanukhi, Nishwar, vol. VIII,
pp. 16-18; also Sābī, op.cit., p.76.

\(^2\) Tabari, Ta‘rikh, III, pp. 1660-1.

\(^3\) Ibn Jawqal, op.cit., pp. 163, 166, 169; Istakhrī, op.cit., p.85.

\(^4\) Ibn Jawqal, op.cit., p.167.

\(^5\) Ibid., p.156.

\(^6\) Ya‘qūbī, Baladn, p.264.
important barley growing area. Both Qudama and ibn Khurra
dadbeh furnished interesting details concerning the quantity of wheat
and barley collected annually from each district in the province
of the Sawad during this century and such details greatly assist
the estimation of their total production in the country, especially
as the official percentage or share taken is very clear.

Some difficulties, however, may be encountered from apparent
discrepancies in the material. The figures given by both Qudama
and ibn Khurra
dadbeh may have been merely copies of official
estimates and not an actual record of the amount collected.
There is a strong probability that there are large differences be-
tween the figure of such official 'ibra and the actual amount
collected. Moreover, the boundaries of the districts of the Sawad,
as already stated, cannot be determined, although their general
location is fairly clear in most cases. Thus no comparison can
be drawn between them as to their respective agricultural yields.
According to Qudama's list, which depends mainly on the 'ibra
of the year 204 A.H./819 A.D., the largest quantity of wheat
was produced in the districts of Kaskar and Anbar. By the end of

1 Ibn Hawqal says:

Masalik, p.162.

2 Supra, p. 121, fn 2.

3 Tabař, Ta'rīkh, III, p.1039.
the 3rd century the production of wheat in both these districts had dropped more sharply than the average decline in production of the entire province.¹

Barley production was more extensive than wheat, perhaps because it is better able to resist the effect of the rising percentage of salt.² By consultation, computing and comparing the crops, it can be said that the average barley production in most districts of the Sawād was generally higher than that of wheat. There is no general decline in the production of barley, and although the amounts in five districts actually declined, there were seven districts in which the production flourished, while the other 28 districts retained their same average (see App. I). The total estimated yearly tax in kind (share-production) of the Sawād at the beginning of the 3rd century A.H., according to Qudāmah, was 177,200 kurr of wheat and 99,722 kurr of barley.³

¹The total yearly production of the Kaskar and Anbar districts can be calculated as 75,000 and 29,000 Kurbl mu'addal respectively during the early part of the 3rd century A.H. These figures made an average decline of 90% during the last quarter of the century, probably because of the devastation of the area due to revolts and economic instability. Supra, p.121, fn 2.

²Ibn Wahshiyya, op.cit., fol. 33b.

³Qudāmah, Nubadh, p.239.
it was 69,650 kurr of wheat and 112,150 kurr of barley. An amount calculated from the figures given in the Kitāb al-Wuzara' of Ṣabî, which represents the yield at the beginning of the 4th/10th century, shows that the yearly levy of barley from the Sawād appears equivalent to 136,000 kurr.

Ibn Wahshīyya speaks of the distinction between six different varieties of wheat, distinguishable by size and weight. He provides practical examples for ascertaining the perfection of both wheat and barley.

Bread, made from the flour of both these kinds of grain, was the major source of the Iraqi population's nutriment. Ibn Wahshīyya states that it was popular among the inhabitants of the major cities of Iraq, such as madīnat al-Salām (Baghdād), Wāsīṭ, Baṣra and Kufa. Special dishes of bread pieces prepared with either vegetable soup or olive oil and vinegar, called al-tharīḍ, was a popular dish. Many kinds of dishes were prepared from boiled and peeled wheat, such as the burghul, habība and disheesh, which were similar to rice dishes but with different flavours. Some special dishes contained a paste of mashed meat

1Ibn Khurrahāhībch, op.cit., pp. 8-14.
2The historical remains of Hilāl al-Sabī', ed. H.F.Amedroz, Leyden (1904), p.188. The actual amount mentioned by Ṣabī is in fact 340,000 kurr musarrafan bi'l-fālīj. This amount is converted to the kurr mu'addal on the ratio of 2:5. cf. Ehrenkreutz, 'The taṣrīf and tas'īr.', JESHO, VII (1964), pp. 46-56; idem, 'The Kurr system in Mediaval Iraq', JESHO, V (1962), pp. 30ff.
3Ibn Wahshīyya, op.cit., fol. 31b, quoted by ibn al-'Awzīm, op.cit., fol. 122a-b.
and pearl wheat.¹ Bread made from barley, frequently with an admixture of millet or beans, was the basic food of the majority of peasants (akīrma). Ibn Wahshiyya describes such bread as a proper meal for the ploughmen and cultivators whose work was strenuous.²

Special drinks were prepared from a mixture of barley and millet which were similar to strong wines in their effect.³

Rice, according to Arab geographers, was evidently grown in the regions of the Sīwād where it was warm and humid, a condition necessary to its cultivation.⁴ Both Qūḍāma and ibn Khurramadāhbeh counted four districts in their lists of taxes which produced large quantities of rice, and were irrigated by the Euphrates and its lower canals, such as al-Ṣarāt al-Kabīra, Sūra al-Asfal and Budāt. Qūḍāma refers to these four districts as paying a combined tax on barley and rice. The Tassūj of Sūra and Barbīsma paid 2,500 kurr, Furāt Badaqlā 2,500 kurr, Nistār 2,000 and Kaskar 20,000,⁵ while Ibn Khurramadāhbeh leaves similar information concerning the location of rice-growing area. With

¹Ibn Wahshiyya, op. cit., fol. 64b.
²Ibid., fol. 80a-b.
³Ibid., fol. 86a.
⁴Muqaddasi, op. cit., p. 113.
⁵Supra, p. 121, fn 2, p. 123, fn 2.
the exception of the first mentioned district, which seems to reflect a yearly decline of 250 kurr, those of the remaining three appear to remain static.\(^1\)

Apart from those already mentioned, Qaṣī Tanūkhī produces the first clear evidence concerning the total amount of rice assessed from three districts. He speaks of the cultivation of rice in low level fields in the Baṣṣā'īḥ.\(^2\) Other areas to the east and south of Kūfa, which were irrigated by the lower canals of the Euphrates river, such as the Ṣarāṭ al-Kabīra canal, Sūrā al-Asfal and their sub-canals, in addition to the Budāt.\(^3\) Yearly rice production in the ḍiyāʿs of this area alone appear to have been 3,000 kurr muʿaddal,\(^4\) during the period between 243-263 A.H. (857/877 A.D.).\(^5\)

Another passage by Qaṣī Tanūkhī refers to the rice-plantations of Jāmīda in the locality north of the Baṣṣā'īḥ, south of Wāṣīṭ, and to the west of the river Tigris.\(^6\) This region seems

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\(^1\)Ibid.

\(^2\)Tanūkhī, Nisḥwār, vol. VIII, p.67; also Muqaddasi, op.cit., p.119.

\(^3\)Tanūkhī, loc.cit.


to have been one of the richest rice-producing area in Iraq. Because of this, it was coveted by the high-ranking officials who disputed its possession and endeavoured to control ʻAmida and its neighbourhood during this period. Ibn Waḥshiyya provides significant detail about the cultivation of rice in the Sawād (iqlīm Babil). The crops could be produced twice yearly in both the summer and winter seasons. The growth during the summer entirely depended on the possibilities of irrigation, while in winter, rainfall supported it. He gives the time for planting rice for summer growth as the second half of July (Tammūz), to be gathered during December (Kānūn al-ʻawwal). The rice for winter growth was to be planted at the beginning of January (Kānūn al-ʻAkhīr) and gathered during May-June (Aīyar-Huzairān). Its planting demanded meticulous preparation, fertilisation, irrigation, harvesting and threshing. In southern Iraq, particularly in the Bataʻıh region and Bağra, the rice, cooked with fish, constituted most-or at least—an important part of the diet, and rice-bread played a large part in the nourishment. This was the case for

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1For example, see Taβarī, Taʻrīkh, III, p.1535; Tanūkhī, Faraj, I, p.91. Sulī, Akhbar al-Raḍī, pp. 233, 236, 239, 240.
3Ibid. "شَعْبٌ مُتَعِبٌ جَمِيدًا"
the population living in the south and middle parts of the
Sawad. 1 Dishes made from rice were often served with vegetables.
Special recipes consisted of rice cooked with milk. It could also
be cooked with butter, oil or fat, seasoned with salt. 2 A
special kind of pastry could be prepared with rice, and in the
districts 'abdasi, Badaraya, Bakasaya, Junhula and many others,
a special kind of drink, nabidh, is made from it which seems to
have an intoxicating quality. This, ibn Wahshiyya describes as
"yudhibu 'l 'aql", and it seems to have a similar effect as
potions containing excessive alcohol. 3 Canard, however, points
out that rice-made bread is chiefly the food of the poor because
both that and bread made from barley are cheaper than that made
from wheat, and considers rice-bread to be of less importance to
the community than wheaten bread. 4 Nevertheless, in certain
regions, rice was the basic food and, in Iraq, it remains as a
staple dish, especially when accompanied by fish. 5 Some rice
dishes require a great deal of complicated preparation. 6 The
suitable climate of southern Iraq, the nature of the land, its

1Ibn Qutaiba, 'Uyun al-akhbar, I, p.221. cf. Canard, 'Le riz...',
pp. 121-2.

2Ibn al-'Awwan, op.cit., 127 ff. See Ibn al-Balghar, Mufradat, Bulaq


4Canard, op.cit., p.123.

5Jahiz, al-Bukhala', p.282; Taj, p.27; Muqaddasi, op.cit., p.416.

6Kitab al-Tabikh, pp. 24, 28, 33-34.
quantity of valuable and necessary water, no less than the
great demand for this commodity, has led to the cultivation of rice
on a large scale. Large supplies are the reason for its low
price, thus enabling the poorer population of this area to look
upon it as their major source of nutriment.

Sorghum dhura was produced in Iraq in large quantities. Ibn
Wahshiyya provides information about the manure and irrigation
methods used to ensure the crops.\(^1\) He also refers to it as summer
season produce and states that the seed was sown between 24th
March and 24th April.\(^2\) He states that the inhabitants of Southern
Iraq considered that bread made from dhura was preferable to
that made from rice, especially when mixed with the flour of
wheat and barley.\(^3\) Young dhura plants fed the cattle, and the
sprouts, stubble and husk also fed them. This, he claims, was
the proper fodder for cattle, especially cows and goats.\(^4\)

Oats, rye and millet were well-known products of the Sawad.
Ibn Khurradadhbeh states that millet and barley together were
used in the Rostiqbadh district as payment of taxes, which em-
phasiases the importance of millet production in this part of the

\(^1\)Ibn Wahshiyya, \textit{op. cit.}, fols. 109a-112b, (VL) fol 64b.
\(^2\)Ibid. (VL), fol. 64b.
\(^3\)He states

\(^4\)Ibid. (BL), fol. 113a.
country. The author of Kitāb al-filāqa al-nabatīyya refers to the areas nāḥiyat Saqī dijla, Aṣfāl iqām Bābil, Joukhī and al-Jarāmiqa with their especially high yield of these fodder crops. Alfalfa and clover were also known, but their importance seems to be less than it was in the preceding two centuries. It is noteworthy to recall here that both the barley and rubbah were used for land reclamation in addition to their normal use as feeding stuff for cattle.

Cotton was the most common of textile plants. Mūqaddasī describes the Sawād of Bagra as one of the most important areas for producing the finest cotton crops in Iraq. Ibn Wahshiyya was of the opinion that a clay soil was the best kind for the growth of cotton, but that it must be completely free from salt.

Cotton was sown between the end of April and the end of May. The gathering of the early crop began in June and continued until the end of July. Flax (kattān) was also extensively grown in the Sawād, particularly near the middle region of Iraq, where its

1 Ibn Khurrahādheb, op.cit., pp. 8-14.
2 Ibn Wahshiyya, op.cit. (BL), fol. 113a-b.
3 Ibid. fol. 93b.
4 Mūqaddasī, op.cit., pp. 118, 141.
5 Ibn Wahshiyya, op.cit. (BL), fols. 145b-146a.
6 Ibid.
crops were used not only for textiles but the seeds formed a staple part of the food. The inhabitants used flax-seed flour in the preparation of bread. Lamp oil was also extracted from flax-seed.\(^1\) A detailed description is provided by ibn Wahšiyya of how the peel can be taken from the flax-stem in order to prepare the flax for textile use.\(^2\)

Hemp (Arabic qinnáb; Persian shahdanaj) was another well-known produce, and ibn Wahšiyya distinguishes between the two kinds of hemp.\(^3\) There was the kind that produced seed, which was cultivated; the other was not cultivated so much as a textile plant but rather for the production of a narcotic (Arabic hashish). The second kind which does not produce seeds was more widely used for textiles and was woven into a lasting and rough cloth. Hemp fibre was also useful with which to make various kinds of rope and threads.\(^4\)

It was sown in Iraq between the 20th February and 24th March and was harvested in June.\(^5\)

\(^1\)Ibid., fol. 147 b.

\(^2\)Ibid., fols. 148a-149b.

\(^3\)Ibn Wahšiyya, op. cit. (VL), fol. 71a; quoted by Ibn al-‘Awwám, op. cit., fol. 133b.

\(^4\)Ibid.

\(^5\)Ibn al-‘Awwám states: يِفْزِلُ وَيَحَاَكَ وَتَحْمِلُ مَنَهُ مَلَابَسٍ وَخَشْنَةٍ وَلَا كَنْهَا “قُوَيَةٌ وَحَباَلَ رَفَاقٍ وَفِلاَظٌ وَخِيْوَةٍ” Filâha, fol. 133b.
The dye yielding plants cultivated in Iraq were:

- madder (Arabic Fuwwah) which produced a red dye;
- saffron (Arabic Za'faran) which produced a yellow-orange dye;
- indigo (Arabic Nila) which produced a blue dye;
- lawsonia (Arabic hinnâ') which produced a dark orange dye and was used for cosmetics and medicinal purposes.  

Ibn Wahshiyya stated that the opium poppy either grew wild or was cultivated in Iraq. The cultivated poppy was known as 'Bustanî', and some of them were black and others white. In the northern part of Iraq another type of poppy was produced - 'jabali' - which was much larger. A third type is also mentioned which grew entirely as a wild flower, 'Dcrri'.  

Asparagus (Arabic, Hiliyon) was also cultivated and was, according to ibn Wahshiyya, originally brought from the Jordan valley, and was produced in Bajarma, and Saqi Jukha among other districts of Babil and Khatarniya.  

Sesame was the most important of the oil producing plants and its oil (Arabic: dîr al-Sissim) practically replaced that of the olive. Ibn Wahshiyya advised that sesame should not be

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1 Ibn al-'Awâm quoted both Ibn Wahshiyya and Abu Hanîfa al-Dinawari, Filâha, fols. 133b-134b.

2 Ibn Wahshiyya, op. cit. (BL), fols. 156b-159b.

3 Ibid., fols. 162b-165a.
cultivated in successive years, as its cultivation weakened the soil when constantly repeated. Muqaddasi later refers to the countryside of Takrit as perfect for sesame cultivation. Wasit is also mentioned by other authors as a centre of its production during the first quarter of the fourth century.

Pulse plants, such as Indian peas (Arabic, mash), lentils (Arabic, 'adas), vetch (Arabic, karsma or julban), lupin (termis) were mentioned by the sources among many other similar products.

A considerable number of plants with medicinal properties are mentioned in Arabic medical books. The Book of Poisons (Kitāb al-sumūm) of ibn Wahshiyya describes various kinds of plants with such properties, which were either cultivated or grew wild in Iraq. Among them are:

- Lemon grass (Arabic, aḳhkur);
- wild ginger (Arabic, asarūn);
- wormwood ("ifisantīn);
- aniseed ("aṇisūn);
- camomile ("bābūnīj);
- rocket ("jarjīr);
- cypress nut ("jūz al-'add); nutmeg ("jūz hind);
- lerebinth ("ḥabba);
- water mint ("al habag al-nahri);

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1 Ibid., fols. 150a-152b.
2 Muqaddasi, op. cit., p.123.
4 Jahiz, Dala'il, p.19; Ibn Wahshiyya, op. cit. (BL), fols. 125a-128a; 136a.
white cress (Arabic, *harrf al-bunāl*); Babylonian (Arabic, *harrf babīlīy*);
harmal ( " *harrf al-bunāl*); henna ( " *hinna‘*);
colocynthis ( " *harrf al-bunāl*); mallow ( " *khubbāz*);
Nabatean carob ( " *kharrūb*); castor oil plant ( " *khurwī‘*);
poppy ( " *khishkhash*); black poppy ( " *khishkha‘ aswād*);
wild black poppy ( " *khishkhash barī‘*); Chinese cinnamon ( " *darqīnī*);
long pepper ( " *dar fulfu‘*); ginger ( " *zanjabīl*);
and orgian (Arabic, *ga‘tar*)

are among those mentioned.¹

There were many types of herb mentioned also:
mint (Arabic, *na‘nā‘*); caper plant (Arabic, *kuber*);
chicory ( " *hinā‘ibā‘*); clove ( " *qurunful*);
borage ( " *līsān al-thur*); fennel ( " *shamra*);
fennugreek ( " *bīlba*); water cress ( " *rīshshād al-ma‘*);
wild cress ( " *rīshshād al-bā‘r*); dill ( " *shibint*);
sage ( " *gī‘īn*); parsley ( " *baqdūnis*);
leek ( " *kurrah*); sorrel ( " *himmad*);
sweet basil ( " *ga‘tar hindī*); turmeric ( " *kurcum*).²

¹Ibid., pp. 115-127.
²Ibn Waḥshīyya, Filaha (VL), fols. 105a-116b.
The sugar cane was cultivated in the Sawād of Baṣra and it flourished in the region of the Baṭā'īh. According to Tha‘alibī, its cultivation was widespread in Iraq.

From very early times, fruit growing played a large part in the country's economy. Whethern under Umayyad or early Abbasid rule, the date palm was prolific in all districts and was cultivated more intensively towards the south, particularly in the vicinity of Baṣra where it was of prior importance and was cultivated in immense quantity and variety. Detailed information is given by Arabic authors concerning the palms and their distribution. Ibn Ḥawqal and Iṣṭakhrī stated that palm trees were extensively cultivated in the Sawād as far as Qadisīyya of Kūfa in the west and to the border of Iraq in the north. Ibn Waḥshiyya provides detailed descriptions of the varieties, plantation, diseases and cure of the trees. He speaks of innumerable varieties of date and the advantages of both fruit and tree. Ibn al-Ṭaqīḥ quotes Jāḥiẓ as saying that, during the reign of the Caliph ʿaṭasīm, there were three hundred kinds in Baṣra. Throughout the Sawād, dates were of almost equal

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4Ibn Waḥshiyya, Filaha (VL), fol. 192a-211b.
importance to the community as were wheat, barley and rice.\(^1\) In many areas, particularly in the Sawad of Basra, dates formed the chief part of the diet of most of the community and was the sole nourishment of some.\(^2\) Despite Islamic prohibition, strong intoxicants from dates were not only produced but were consumed; a very strong vinegar and other and refreshing drinks were also a product from dates. Fresh dates of a choice variety achieved special celebrity, while the products of the least choice were used as fodder and, by cultivators, in the preparation of manure. Ibn Wáshshíyya enumerates the usefulness of palm-trees and concludes by saying that every part of every tree had its function.\(^4\) Apart from nutriment capacity, its timber was used for building houses, cottages and hovels; furniture was constructed from its fronds and uses of these were extended to boat and skiff building. The inner part of the wood contains an especially sweet sap, highly valued as a sweetmeat. Date molasses was immensely important in the trade relations of the country with the Arabian desert dwellers, no less than was the date fruit, apart from their value in the internal market.\(^5\)

\(^1\) Ibn Wáshshíyya, Fílāḥa (BL), fols. 106b-174a.
\(^2\) Jahshíyári, Wázara', p.146; ibid.
\(^3\) Ibn Wáshshíyya, Fílāḥa (BL), fol. 113a.
\(^4\) Ibid.
Viticulture flourished, and early sources speak of the tax which was levied on vineyards shortly after the Arab occupation. Ibn al-Faqih refers to the varieties of vine and to the new kind brought into Iraq in order to increase the quantity and quality of production. In a chapter 'On vines', Ibn Wahshiyya provides detailed information concerning various aspects of their plantation and production. He refers to the large varieties of vine which were under cultivation. Abu Hanifa al-Dinawari, in his Kitab al-Nabat refers to a favourite kind of grape, "zarjūn". He also mentions the early season grapes, the "husrīn" from which were developed various kinds of drinks. He also refers to "The Virgin's fingers" (asābi‘ al-'adhara) the 'igmā'i, the raisin (zabīb) and the currant (kismīsh) which were dried from the produce of special vines. Different types of grapes are spoken of, by other sources, which were produced locally in many districts.

1 Māwardī, op.cit., p.168.
2 Ibn al-Faqih, op.cit., p.125.
3 Ibn Wahshiyya, op.cit., fols. 126a-160a.
4 Dinawari, op.cit., p.230.
5 Ibid., p.131.
6 Ibid., pp. 44-5, 207.
Another well-known variety of fruit was the fig, for which the Hulwān district was reputed.\(^1\) Abū Ḥanīfah al-Dīnawarī distinguished between four kinds of the fruit, whether grown from the fig-palm of gardens and orchards (bustānī), wild (barri), in flat areas (sahlī), or of mountain growth (jabalī). He also refers to ten varieties of fig which differed in size, taste and colour.\(^2\)

The pomegranate (nummān), oak (ballūt), chestnut (shābballūt), hazel-nut (bunduq), pistachio nut ('fistiq) and almond (luoz) appear in many sources as Iraqi produce during the 3rd century.\(^3\)

Soft and stone-fruits no less occupied their position among the fruit produced in this country. Ibn Wāshiyya, among others, names many of them:\(^4\)

<table>
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<tr>
<th>Fruit</th>
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<th>English Name</th>
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<tr>
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<td>peaches</td>
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<td>prune</td>
<td>shahlūj</td>
<td>danson</td>
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<td>apple</td>
<td>tuffarah</td>
<td>pippin</td>
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<td>mulberry</td>
<td>tūt</td>
<td>black</td>
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<td>common</td>
<td>tūt shawkī</td>
<td>raspberry</td>
</tr>
<tr>
<td>bumble</td>
<td></td>
<td>mulberry</td>
</tr>
</tbody>
</table>

...and the olives (zaitān)

together with many others were cultivated in most parts of the Iraq.

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2. Dinawarī, Nabāt, pp. 70-71.


4. Ibn Wāshiyya, Filaha (VL), fols. 168a-169b; Jāhiz, Bukhāra', p.201; Dinawarī, Nabāt, pp. 41, 75.
countryside.\(^1\)

Citrus fruit: the lemon (lāيمn), orange (burtuql) and bitter orange (nārenj), seem not to have been cultivated during the 3rd century A.H. although citron (atrunj) trees are mentioned. Professor Dūrī states that citrus trees were brought to Iraq for the first time from India during the 4th century. They came to Bagra via ‘Ummān in the Persian gulf.\(^2\) Both Ibn Wāshīyya and Abu Ḫanīfa al-Dīnawārī mention the citron and classified it into two groups: sweet (atrunj bulū) and bitter (atrunj hamud).\(^3\)

Melons (Arabic, bāṭīkh; Persian, ḥarbūz) and water-melons (shammām) abounded everywhere and Ibn Wāshīyya states that large quantities of them were cultivated in great variety during this time.\(^4\) While he mentions eight different kinds, he says that it would be difficult to quote the names of all of them.\(^5\) Melon and water-melon, however, seem to have been the most popular fruit in the markets.\(^6\)

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\(^{1}\) Ibn Hawqāl, op.cit., pp. 220-1; Muqaddasī, op.cit., p.141; Dīnawārī, Nabāt, pp. 202-3.

\(^{2}\) Dūrī, Iqtisādī, p.58.

\(^{3}\) Ibn Wāshīyya, Fīlahā (BL), fol. 178a; Ibn al-‘Awwān, op.cit., fols. 87a-89b; also Dīnawārī, Nabāt, pp.40-1.

\(^{4}\) Ibn Wāshīyya, Fīlahā (BL), fols. 122b-123b.

\(^{5}\) Ḫāṣṣ, Dā'il, p.23; Dīnawārī, Nabāt, p.65, also Ibn Wāshīyya, Fīlahā (BL), fols. 122b-125b.

The rich soil of Iraq was favourable to vegetable-growing and was also highly developed for that purpose during the period under consideration. They were found growing near the large commercial centres such as Baghdad, Samarra, Wasit, Kufa and Basra. Ibn Wahshiyya details some of the vegetables and spices for which the country was noted during his time, and other contemporary sources supplement his information.\(^1\) The most common were cabbages (Arabic, kamāb), cauliflower (ginnābit), turnips (saljam), radishes (fijil), carrots (jazar), onions (bāsal), garlic (thūm), marrows (kusāt), cucumber (khīyar), snake cucumber (qith thā'), barley beans (fāsliyā'), broad beans (baqilla'), kidney beans (lūbiyā'), peas (bāzáliyā'), aubergines (badhinjān), leaf beet (silq), spinach (sabāniḥkh) and lettuce (khass).

Many different kinds of flowers were also a factor in the produce of Iraq and Ibn Wahshiyya devotes a specific chapter giving details of their cultivation, particularly mentioning roses.\(^2\)

Among the varieties he mentions are:\(^3\)

- Sweet basil (Arabic, jūrī);
- Broom (Arabic, bahar);
- Jonquile ("nirīn);
- Jasmine ("yasminin);
- Myrtle ("aass) and marsh mallow ("khatī").

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\(^1\) Ibn Wahshiyya, Filūḥa (BL), fols. 72b-74a, 75b-77b, 113b-119b. See also: Jabīs, Bukhāra', p.241; Dala'il, p.23; Rasa'il Ikhwan al-Safā, vol. II, p.138; Ibn al-Jawzi, Talbis, p.221; Tha'alibi, Tā若是, vol. II, p.140.

\(^2\) Ibn Wahshiyya, Filūḥa (BL), fols. 148a-149b.

\(^3\) Ibid.
To these, other authors add the names of:

narcissus (Arabic, nari;š), violets (Arabic qarunful),
sweet sultan (Arabic, 'embar) and crown imperial (Arabic,
shaqa'iq).¹

In the period under consideration it is doubtful whether
flowering plants, other than those used medicinally, such as
roses for the extraction of rose-oil (dihml'ward) and rosewater
(mā' al-ward), were grown if the purpose of decoration or to have
any major role in the production and economy.

Finally, thirty-five different kinds have been thoroughly
discussed by Ibn Wahshiyya in a chapter entitled "Unfruitful trees"
(al-ashjär al-latī lā tuthmir) which were cultivated in order to
produce timber, to provide shelter for plants or for visual
enjoyment.² It is more reasonable to suppose that these trees
were used to meet local needs for buildings, manufacturing wooden
implements for cultivators, water rising machines, fences, boats
and many other articles which were basically wooden. It is equally
reasonable to suppose that plantations provided the requirements
of wood for fuel.

¹Ya'qūbī, Buldan, p.264; Nuwayrī, op.cit., p.371; Hikāyat
Abu'l Qasim al-Baghdādī, p.89. Duri, Iqtisādi, p.60.

²Ibn Wahshiyya, Milāha, (VL), fols. 177a-183b.
Appendix I

The following appendix shows the total revenue of each district during the early years of the 3rd century A.H., derived from the works of Qudama ibn Ja'far, compared with the figures given by ibn Khurradadhbeh. Each section comprises the revenue of one district.

The abbreviations used in this appendix are as follows:

A Districts
B The amount of wheat presented in kurr
C The amount of barley presented in kurr
D The amount of money presented in dirhams
Qu Qudama ibn Ja'far (represents the year 204)
Khur Ibn Khurradadhbeh (represents the last quarter of the century)
\( \text{\&} \) that this figure is a combination of barley and rice
\( \text{\&\&} \) that this figure is a combination of barley and millet
\( \mathbb{M} \) the figures represent the year 260 A.H.
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Chapter IV

THE AGRICULTURAL POLICY OF THE STATE

The Abbasid authorities seem to have been fully aware of the connection between the prosperity of agriculture and the state revenue. Kharāj and other forms of land taxes were its greatest asset, and rulers realised that the more agriculture flourished, the greater the gain to the treasury.¹

So much waste in expenditure and unnecessary salaries to too many officials, together with the loss of gold and silver mines in outside provinces of the state - most of which had been either depleted or annexed as a result of wars - that the treasury was scarcely able to meet necessary expenditure.²

The attention of the caliphs focused upon agriculture in Iraq as a means of rectifying the position. At the same time they realised that to adopt the policy of giving much-needed assistance to the cultivators would be a wise policy. It is obvious, however, that the welfare of the cultivators did not always receive the consideration due.³

²Lewis, B., "ʿAbbāsid", EI², sv.
³Tanūkhī, Mīshwār, vol. VIII, p. 89; Miskāwīh, op.cit., vol. I, p. 27.
The Abbasid policy towards agriculture seems to have been directed into five main channels: irrigation policy, cultivation, supervision, reforms in tax assessment and collection and the revenue calendar in addition to the policy of ḫāṣaṣṭā'.

I) Irrigation policy

The Abbasid government gave much attention to the maintenance of irrigation systems. New canals were dug, and specialists in irrigation problems were imported and employed. Qudāma ibn Ja'far quotes the advice given by the vizier Mūâwiya ibn Abdullah, who included it in his Kitāb al-Kharāj to the Caliph Mahdī. The vizier was of the opinion that all expenses of the maintenance of the system should be covered by the Treasury. This, he said, should include the expenses of dredging, waterways, establishing dams, and digging new canals in addition to the costs of maintaining weirs, dams and strengthening river dams, especially during the seasons of flood.

It seems, however, that such advice was not always taken. The sources speak of Nahr al-Ṣīla Canal which was dug in the area of Waṣiṣ during the reign of the Caliph Mahdī. He did not charge the cost to the cultivators, but he doubled their rate of taxes over a period of fifty years, according to special terms he made

1Ṭabarī, Taʾrīkh, III, 2159; Ǧabī, Wuzara', pp. 256-7.
3Qudāma, Kitāb al-Kharāj wa-ṣanʿat al-kitāba (MS. K.L), f.100b.
with them.¹

In his Kitāb al-Kharāj, Abu Yusuf also stresses the financial responsibility of the state to strengthen the banks of both the rivers Tigris and Euphrates. In this connection he also mentions repairs to banks caused by flood damage. He emphasises that these matters should not be the responsibility of cultivators, particularly those who worked the Kharāj lands. He further said that not only the two main rivers of Iraq, but the dredging of the main canals were partially the responsibility of the diwan al-Kharāj and that the expenses of the operation should be shared both by the treasury and the cultivators. He recommended that when sub-canals were the private property of certain cultivators, or when they ran through irrigated lands or orchards, then the entire cost of dredging was the responsibility of the land owners or cultivators.²

The cost of digging new canals was high and the only practical way of covering such expense seemed to be to pay the amount from the treasury. Jahshiyārī provides information concerning the dredging of the upper Qatul and digging an additional canal, during the reign of the Caliph Harūn al-Rashīd. The cost, which amounted to 20 million dirhams, was met by the treasury.³ Ṭabarî

¹Qudāma, 'nubadh min Kitāb al-Kharāj, pp. 241-42.
²Abū Yusuf, Kitāb al-Kharāj, p. 63.
³Jahshiyārī, al-wuzara' wa'l-Kuṭṭāb, p. 63.
provides another example when he speaks about the Caliph Mutawakkil and his new residence in al-Mutawakkilīyya,\footnote{It was known also as al-majūza.} to the north of the capital, Sama‘ra. He refers to a new and large canal which was dug in the year 245 A.H./859-60 A.D., in order to irrigate the fields surrounding this area. The expenses of creating this were, on this occasion, included in the total expenses of the area and were met by the treasury.\footnote{Tabari, Tārīkh , III, p.1438. Copied by ibn al-‘Athīr, al-Kamīl, vol. VII, p.33.}

This was not always the case, however. As has already been mentioned, the ruling factor was the mood of the particular caliph. Even the Caliph Mu‘taṣib, who was known to devote much attention to the problem of irrigation and to follow an enlightened policy in this respect, ordered a stipulated sum to be collected from the owners of ḏay‘a and iqtā‘ in order to help defray costs for the clearance of large stones in the Duja‘l Canal which prevented the necessary drainage of water.\footnote{Ibid., III, p.2153.} It is possible that this canal chiefly irrigated private property, which would give the reason for the charge. It is also equally possible that the financial difficulties which faced the Abbasid government during that period may have been the cause.
The responsibility of the government for irrigation supervision, maintenance of water supplies, dams, etc., in addition to other functions, was carried by the diwān al-Kharāj.\(^1\) Specialised employees would be based in this diwān and drafted when and where necessary. Land surveyors (massāḥīn) were always needed to plan and construct new canals and waterways; engineers (muhāndīsīn) who were concerned with the construction of weirs, dams, etc.; others specialised in the maintenance necessary to irrigation. There were those who would arbitrate concerning disputed land, advise on the use of additional canals where none were in existence; some would advise and supervise concerning dredging and draining of existing water-ways; to see that the banks of rivers and canals were kept in constant repair.\(^2\)

All these things were the responsibility of the diwān al-Kharāj. The duties of the various departments were collated under two headings, according to Būzjānī. They were designated as the Karī (or the 'imāra) and the Bizandāt (or the Tahṣīn). Draining and dredging were the responsibility of the Karī. This was done during the period preceding cultivation. The Bizandāt held the responsibility

\(^1\) Ṣabī', Muzara', pp. 256-7; Būzjānī, Kitāb al-hāwī lil a'māl as-Sultanīyya va rusūm al-hisāb al-diwanīyya, f.177a, ed. C. Cahen, 'Le Service de l'irrigation en Iraq au début du XIe siècle, BEQ, XIII, 1949-51, pp. 117-143.

\(^2\) Ḥāfiz, Tabaggur bi'l-ṭijārah, pp. 33-4; Būzjānī, op. cit., p.147a.
for the constant repair necessary to the banks of rivers and canals during the periods of flooding and also extended through the time of harvesting, during which time it was known as "The protector of the crops" (ṭabsīn al-ḥillah).¹ Miskawaḥ stressed the clear relation between the 'imāra and the 'ibra.²

Special engineers were concerned with the problems of water supply (muhandisū al-ma'). According to Ḥāfiz the Caliph Mu'tasım brought in a similar type of engineer when he established the capital Sīmarra.³

The sources also speak of many types of workers which were employed by alwān al-Khairaj. Büzjānī mentions supervisors of water levels (qaṭiyasun) in the rivers, canals and sub-canals; those employed in creating new canals and other dredging works; labourers who dug them; others who carried displaced soil to strengthen outposts, dams or weirs, or to dispose of unnecessary rubble (nagḥalun). There were reed assemblers for the purpose of building dams (razzamān) fresh water carriers (sawwā'īn) to those working on these and other types of work are also mentioned. Last, but by no means least, there was the controller who organised all types of work according

¹Büzjānī, Kitāb al-hāwī, f.149a. cf. Ibn Ḥawqal, Masālik, p.56.
²Miskawaḥ, op.cit., II, p.126.
³Ḥāfīz, al-tābgasur b'il-tijārah, p.34; Ya'qūbī, Badāsī, p.264. The continuation of a similar class of engineers is noticeable during the reign of the Caliph Mu'taṣid; see Ṣabī, Muzara', pp. 256-7.
to its nature. Such an army of workers was sent whenever necessary and all of them were paid by the diwan al-Kharaj. In those cases when the work was not the responsibility of the diwan al-Kharaj, the total of expenditure made was collected from those cultivators who gained the advantage from the operation.  

The responsibilities of the diwan al-Kharaj did not end there. It was their responsibility to resolve problems and disputes between cultivators concerning irrigation problems in order to ensure justice and the proper use of irrigation water. Representatives of the diwan, including high officials, engineers and other specialists were usually sent to the spot in order to investigate the case. After consultation with the local landowner and assessing the amount of irrigation water passing through the canal and the local custom under consideration, the commission of representatives would give their views in a report to the appropriate department of the diwan which was responsible for its implementation, after it had received the vizier's approval. Sometimes the Caliph himself listened to the different arguments concerning the problem under dispute, if he considered the subject to be of sufficient importance, or when he was specially concerned with the cultivator's problems.

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1 Tabari, Ta’rikh, III, 2153; Qudama, op. cit., f.100b.

2 There was the usual custom of the enclosure (harim), which was not only on the land boundaries, but also applied to rivers, cultivation, etc. etc. Abu Yusuf, Kitab al-kharaj, p. 57; Qudama, al-kharaj, (MSS) fols. 99a-99b; cf. III2 s.v. "Filaha".

Šabī provides an interesting light on how the Caliph Mu'taṣadīd closely supervised the distribution of the costs. In this same report Šabī shows how a commission sent to the spot to study a specific case which, on that occasion, received a just settlement which benefited the cultivator. The incident also reflects that it was possible for the government engineers to conspire with the owners of the dayās in the district to defraud the cultivators preceding the arrival of the commission.

A summary of these records indicates that it was considered to be the responsibility of the diwan al-Kharaḵ to construct and maintain dams and also to excavate and clean the main irrigation channels. The sources provide details of several large-scale irrigation schemes and also the repair of several ancient dams in Iraq.

ii) The Supervision of Cultivation

The sources claim that the official attitude towards the cultivators and other inhabitants of the Sāwād should be toward justice and improve their conditions. Ibn Abī al-Ḥadid, for example,

1 Ibīd.


3 Expenditure through majlis al-bawādīth of diwan al-nafaqah represents a certain amount of money to cover damage and losses, perhaps because of flood and locust; see Qudama, al-Kharaḵ, fol. 8b.
quoted the advice of the Caliph Alī ibn Abī Ṭālib to his 'amils, which said that by improving the condition of the inhabitants of Kharāj land, the common standard of all would be improved, and stressed the need for consideration towards cultivators and care for the land. Both Jahshiyyārī and Tābarī quote the instructions of the Caliph Harūn al-Rashīd to his 'amils of the Kharāj, to be at all times just and helpful. This can therefore, be considered to be the official policy of the state which, in theory, continued to the end of the third century.

In practice, unfortunately, the matter was different and often far from being just or helpful. According to Qādī Tanūkhī, money was lent to the cultivators by the Abbasid government, to help them to buy seeds and cows for the purposes of cultivation. In some cases, seeds were lent to the poorer cultivators, but whether they were lent seeds, cows or money, what was lent was retrieved immediately after the produce was collected. In times of urgent need or disaster the "mailis al-hawādith" in the section of expenditure (dīwan al-nafaṣa) was responsible to alleviate immediate distress and spend any necessary money.

3 ʿAbdī quotes from an official letter circulated by the vizier ʿAlī ibn ʿIsa, on the eve of the fourth century A.H., to the 'amils of the Kharāj to maintain Justice. Wuzara', pp. 336-8; cf. Miskawāḥ, Vol. I, p. 27.
5 ʿAbdī, op. cit., p. 338.
7 Supra, p. 155, fn. 3.
Some unforeseen disasters were a great blow to agricultural production and even harder for the producers, and it is presumed that compensation methods sometimes were used to restore the damaged property. Khāṭīb al-Baghdādī, for example, has left information concerning compensation made during the reign of the Caliph Ma‘taṣīm. The amount distributed was as high as five million dirhams.¹ Sometimes a reduction in tax was made, wholly or partially, for long or limited periods. Such methods were frequently practised during the third century A.H. and benefited some of the high ranking officials and leaders of the Turkish guards.² Various terms were used to identify the official tax reductions which were practised during the period of this study. The Ḳhtimāl was a complete cancellation of tax over a certain period;³ the Taṣwīgh, the Ḥāṭīṭa and the Tarīka were a variety of special reductions.⁴

In spite of the religious restrictions against change in the legal status of kharāj land, it would seem that some of it was actually transferred and was considered as ‘ushrī. This represents


²Tabari, Ta’rīkh, III, 1535; Taifūr, Baghdād, p.211; cf. Abu Yusuf, op. cit., p.33; ‘Iṣṭakhrī, Masālik, p.142.


⁴Qudāma, al-Kharāj, f.lw. 86b-87a.
special reduction of the tax, although without alteration in its legal status. Tabari, however, says that in 245 A.H./855 A.D., the Caliph Mutawakkil transferred the whole of the cultivated land of Kurat Shamsat from kharaj to 'ushri land. The Caliph provided the inhabitants with certificates of transference. The effect of this action, though perhaps detrimental to the treasury, was undoubtedly of great assistance to the cultivators. In addition, the sources speak of direct interference in the kind and amounts of crops to be cultivated in each session in the kharaj lands to ensure that a sufficient and continuous payment would be made to the treasury regularly.

The authorities investigated and arbitrated the disputes which arose between the cultivators over boundaries (al-hudud) or concerning irrigation rights and the repair of banks or cleansing rivers and other water courses, in addition to questions relating to metayage (muzāara'a) leases for orchard planting (musāqāt), reclamation of waste land ('ihya' al-mawat) and the enclosure (harīm) of cultivation, wells and subterranean water courses (qanawat).}

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1 Tabari, Ta'rīkh, III, 1428.
2 Ţabi', op. cit., p. 216.
5 Ibid., Abu Yūsuf, Kitāb al-Khārāj, p. 57; Qudāma, Khārāj, MS, fols. 99a-101b.
All these disputes were dealt with by special committees appointed whenever necessary.¹

Sometimes the Caliph himself would attend, investigate the cause of dispute and give his verdict; while at other times it would be given by a judge who theoretically represented the Caliph.

Endeavour was made to combine Islamic principles with local customs. The sources speak of a special administration whereby the Caliph and the court were in contact concerning most of the changes which occurred in the various provinces.² The diwan al-Barid, in fact, was responsible to provide the central government with continual reports on the cultivation and the cultivator. Tabari, for example, refers to regular daily letters from the heads of the branches of diwan al-Barid in the provinces to the Caliph Mangûr in the year 158 A.H. (774 A.D.).³ In addition to various information, these letters contained an account of conditions in the countryside and the position of the cultivators. The caliph would cause an immediate enquiry to be made to the ʿamîl if any unusual or unexpected changes occurred.⁴ There is, however, no reason to suppose

²Qudama points out that the fixing of boundaries was one function of the diwan al-Kharaj. See Kharaj (MS) fol. 18a.
³Tabari, Taʾrīkh, III, p.435.
⁴Ibid.
that this form of administration was demolished during the third century. On the contrary, Qudama produces an official copy of a document concerning the appointment of a head of a branch of diwan al-Barid (‘āhd bi-tawliyat ‘amīl Barīd), which clearly indicates the continuance of this method.¹

The Caliph also held a special council (majlis al-muzālim) under his personal supervision which heard and rectified the complaints of those who felt they had been treated unjustly.²

As a rule Abbasid viziers heard the complaints in person. Ahmad ibn Abī Khālid practised this during his term of office under the Caliph Ma’mun.³ Mu’tājid’s vizier, Ubaid Allāh ibn Sulaimān was the head of the committee investigating the Magālim case concerned with the dispute over division of water for irrigation in the Badurya district.⁴ Tanūkhī provides further examples which confirm that many similar cases of Magālim were dealt with by this vizier.⁵ Both Ṣābī and ibn Miskawī refer to another occasion when a dispute arose between the cultivators of the Badurya area and the tax collectors concerning the amount of kharāj to be collected. The head of the diwan al-dar supervised

¹Qudama, al-Kharaj (MS), fols. 16a-17a.
³Ibn Tāifi (BM. MS. no. Add. 23318), fol. 883... 
the investigation. Ibn Miskawaih presents an order which was
issued to all 'amilis of the Abbasid state by the vezier Ali
ibn 'Isa, early in the 4th century A.H. In it responsibility
for decisions of disputes arising from agricultural problems,
after thorough investigation of each case, was delegated to the
'amil concerned. He was instructed to implement his decision
and if it were in favour of the complainant, and the matter under
consideration related to kharaj or any other land tax which
— in the opinion of the 'amil should be reduced — he was authorised
to deduct such a sum as he considered to be reasonable. The
deduction, in such a case, was referred to as ihtisab min al-
mazālim. 2

All these references confirm that the Mazalim jurisdiction applied
also to the problems which faced the cultivators during the era
under consideration.

The authorities could influence price control and effectively
stopped price inflation during any period of inflation or crisis. 3

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l'Organisation Judiciaire en Pays d'Islam, Leiden, 1960; Amedruz, H.,
'The Mazalim Jurisdiction in the 'Abkam Sulṭaniyya of Mawardi',
JRAS, 1911, pp. 635 ff.

3 The sources cite various factors which, together, produced inflation.
Some were from natural causes, such as floods, shortage of irri-
gation water and falls, pests and disease. Others related to the
instability of the political situation and military activities
against revolts which disturbed trade routes and the safety of
traders; the actual amount of produce compared with the quantity
needed for marketing, etc. The sources, however, indicate that
inflations and price crises occurred frequently during the third
century; in the years 206 A.H./821 A.D., 'Azdī; op.cit., II, p.307;
It is, however, beyond the scope of this thesis to discuss the causes of price inflation or the many reasons which led to crises. The effect of government action, however, is clearly noticeable.

In spite of the contradictory opinion expressed by various authors, the one most generally accepted is that Islamic principles forbade price control. The Abbasid government circumvented this by themselves competing as sellers. Their tactics were to sell the stocks stored in the diwan al-Kharaj in the Sawad at a reasonable price. As a result of such action, products held by tradesmen and then offered at higher prices could not be sold and so their prices would have to be reduced in order to compete with government sellers. It is doubtful, however, whether such measures were a systematic reflection of firm policy either toward price inflation or in dealing with agricultural economy in general.


or disaster. Sometimes even more extreme measures were taken.

When the agricultural yields were good and the produce plentiful, prices of grain and foodstuffs fell below the average and another problem arose. During such periods cultivators and workers were alike affected, but there is no indication in the sources of any direct or indirect assistance being offered by the Abbasid government. On the contrary, the government seemed to consider only the effect on the treasury and were concerned only to ensure that its coffers should be full. No thought appears to have been given at these times to the distress of those who produced, and when low prices were anticipated the government seems to have been most keen not only to sell its stored crops before the season of the new, but also to sell its share of the coming harvest almost before it had been gathered, to avert anticipated loss.

Dimashqī, in his Kitāb al-Ishāra, mentions a letter sent from the Caliph Ma'mūn to Ahmad ibn Yusuf al-Kātib, the head of the dīwān al-Khāraja, in which he refers to an expected good harvest and an anticipated loss because of the low price situation.


2 Such measures occurred towards the end of the third and the beginning of the fourth centuries A.H., when extreme inflation had been caused by the "dāmar" undertaken by vizier Hamīd ibn al-Abbas; the ensuing situation forced the caliph to cancel the dāmar and ease tension by opening both the governmental stores and those belonging to the vizier, offering the grain at a cheaper price; see Miskawaīṭī, Taʾlīṣīāb, vol. I, pp. 72-75.

3 Dimashqī, Kitāb al-ʾIshāra ʾilā maḥāsin al-tīṣara, p. 48.
which would ensue. He ordered the chief of the diwan al-Kharaj to circulate an order to all the "smila to sell immediately.¹

Such an action would undoubtedly deal a great blow to the cultivators. Government storehouses held large stocks of most of the needs of the markets which would be flooded with the government's stocks and prices would drop sharply. Deflation on this scale crippled the bargaining power of the tradesmen and rendered them unable to buy other stock. The brunt of these conditions fell hardest upon the shoulders of the cultivators. It should also be remembered that, for several reasons, the retail tradesmen preferred to buy stocks from the government rather than from individual cultivators.²

Theoretically it was the government's responsibility to protect cultivators from any threat to their lives and property, but the Abbasid government achieved very little in this respect. The sources produce evidence that various kinds of practices were used by the cultivators to protect themselves from the unjust dealings of the greedy and unscrupulous tax-collectors.³

They sometimes appealed to the caliph through majlis al-mazālim

¹Ibid.
or sought the protection of high-ranking personages, or even changed the tenure of the land to waqf. The bribing of "emils was also well-known as 'irtifāq. Various kinds of punishment were practised upon those who were unable to satisfy the greed of the "emils, to an extent that the cultivators often abandoned the cultivation of their land and were forced to emigrate.¹

Abū Yusuf says that the inhabitants of the Sawād faced many and often repulsive punishments because of the corrupt administration; and the greed of administrators, tax-collectors and their men.² At one period during the third century law and order seem to have been abandoned altogether.³ Ibn al-'Athīr says that in She'ban 201 A.H. (February 817 A.D.) law and order had completely vanished and that most of the villages surrounding Baghdad were plundered. In one day, he said, all the belongings of the inhabitants of Qutrubull - the centre of one of the four richest districts surrounding Baghdad - were looted openly by the military element, and little imagination is needed to give a clear picture of the difficulties and privation suffered by the cultivators at that time.⁴

¹Tabarî, XI, pp. 203-4.
²Abū Yusuf, op. cit., p.62.
⁴Ibn al-'Athīr, op. cit., vol. VI, p.133.
The government faced a difficult and dangerous position during the second half of the third century. There were revolts which started within the nine years following the assassination of the Caliph Mutawakkil. Discipline had degenerated into chaos among the Turkish guards and the government was powerless to ameliorate the condition of the cultivators.\(^1\) During the dispute between the Caliphs Musta'in and Mu'tazz in 251 A.H., two most important areas surrounding Baghdad were flooded deliberately to prevent the approach of the Turkish soldiers and to gain more time to strengthen the city's defences.\(^2\) After this, each of these caliphs sent letters to the *amils* of Kharaj throughout the state demanding that the amount of tax collected should be sent to him. Most of the inhabitants of the district either emigrated or fled in fear. Such episodes reflect the absence of a consistent and stable policy towards cultivation.\(^3\)

The end of this chaotic period coincides with the start of the Zang revolt in the southern area of the Sawād on the 26th Ramazān, 255 A.H. (5th August 869) and continued until the


\(^2\)Tabari, Ta'rikh, Vol. XI, p.97 (Husaniyya Press).

\(^3\)Ibid., vol. XI, p.117.
2nd Safar 270 (11th August 883.) The sources speak of co-
operation between the leaders of the Zanj and the majority of
the villagers of the Basra area, joined by peasants and culti-
vators from other villages in the Sawad. Some of the inhabitants
who were of Arabian origin supported the aim of the revolt leaders
which was to capture Basra in 257 A.H./871 A.D. The support of the revolt by all classes of land-workers
signifies their attitude towards the government and reflects
its failure to protect the interests of agriculture against greed
and vandalism. In addition to the fighting which inevitably
wrecked all production by them, the greed of the tax-collectors
added to their poverty and exhaustion. Al-Baghdadi, in his Kitab
al-farq bain al-firaq says that ignorant peasants were glad to
accept the Carmathian principles and it is no surprise, there-
fore, that they supported the revolt in the Sawad in 278 A.H./891 A.D. Tabari says that after a mass killing of them, Badr (chief of
the Caliphate forces) gave orders to cease the massacre because

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1This revolt, according to Tabari, who was a contemporary, lasted for 14 years, 4 months and 6 days. Ta’rikh, III, p.2098; Ibn al-’Athir, op.cit., VII, pp. 81-2,170; Ibn Abi al-Hadid, Shahr Nahj al-Balaghah, VIII, p.126.


3Ibid., p.18.


5Al-Baghdadi, al-faroq bain al-firaq, p.141.
he realised the shortage of workers the Sawâd would face if the troops continued. But neither the conditions of cultivators was improved nor the extreme poverty of the peasants was alleviated, in spite of the tough measures taken by the military regime, which led them to support the Carmathians in their second rebellion in 289 A.H. (901-2 A.D.). in the district of Sawâd al-Kûfa where the peasants faced similar conditions. The nature of these two rebellions and the principles professed by its leaders and the whole-hearted support of the peasants, in spite of the threat of consequences, reflects the failure of the government to protect the lives and interests of the cultivators against corrupt administration. It is true to say that such an effort to curb it was made later by the Caliph Mu’taḍid who reformed the date of tax collection to ease their condition, in addition to other amenities. But corruption was too deeply rooted to be immediately stamped out by any caliph who himself depended on the same machinery of administration.

iii) Reform in Tax Assessment and Collection

An important change in Abbasid policy was concerned with tax assessment and collection. A reduction in the rate of collection was noticeable and postponement of the date of collection in order

to make it coincide with the ripening of crops was a considerable step towards helping the majority of the population of Iraq. It certainly reflects a more enlightened policy on the part of the government.

In spite of Abū Yusuf's advice to the Caliph Harūn al-Rashīd, the rate of 50% of the produce was continued until 204 A.H. (819 A.D.). In this year the Caliph Ma'mūn reduced the rate of tax on Kharāj land in the Sawād to 2/5, i.e. 40%, and the sources say that this rate was continued in the Sawād during the third century A.H. It is, however, important to realise that this was the theoretical percentage, whereas in practice there were various additions which raised the gross tax higher than it had been before the reduction in percentage. It is equally important to note that the reduction was only made on Kharāj land and did not apply to the tenure of other lands. The private estate owners (mulk) faced equally the difference between the tax theoretically imposed upon them and that which was actually collected. The tax on mulk land which was known as sadaqa was fixed at 10% of the 'ushr. In practice, according to Șabī, Abū Yusuf asked the caliph Harūn al-Rashīd to apply different rates according to the type of irrigation used. The suggested rate varied between 40% and 25% of the products. See Kitāb al-Kharaj, pp. 28-9.

1 Abū Yusuf asked the caliph Harūn al-Rashīd to apply different rates according to the type of irrigation used. The suggested rate varied between 40% and 25% of the products. See Kitāb al-Kharaj, pp. 28-9.

2 The reduction in Khurasān, however, was larger than that in the Sawād. It represented 20% in the Sawād, and 25% in Khurasān. See Tabarī, op.cit., vol. III, p.774.


4 Abū 'Ubād, p.55.

It was as high as 25%. This may have been the reason why a scholar, like Ahmad ibn Hanbal, complained and publicly condemned the whole system of taxation by the Abbasid government.

The method of tax-collection always presented difficulty to both the government and the tax-payer. The assessment of land-tax by estimate seems to have been the rule in Iraq during the third century, although it was similar in earlier periods. Abū Yusuf opposed most types of estimation which were practised during his era and advised abolition of them. He refers in this respect to the practice of khār and the ḥazar, to which Khawārazmī added the takhmain. Each of these means 'the estimation' according to Ibn Manṣūr. Khawārazmī, however, distinguishes between the particular use of these terms although their basic meaning is the same.

The estimation of crop values was, as Professor C.E. Bosworth says, a vital part of the mechanism of levying the muqāsamah tax.

1 Ibn Rajab al-Ḥanbalī, Kitāb al-ʾistikhraj, f. 34a.
2 Infra.
3 Abū Yusuf, op.cit., p.62.
6 The ḥazar is the valuation (taqādir) of produce from the cultivated land; while the ḥazar and the khār were the terms of estimation used exclusively for the date palm and vines, the takhmain applied to green vegetables (khudar). See Khawārazmī, op.cit., p.60; cf. Bosworth, 'Abu ‘Abdullah...,' JESHO, vol. XII (1969), p.137.
7 Bosworth, op.cit.; cf. Lewis, Dafṭar, p.402, s.v.
The different times of ripening and harvesting made the operation difficult and also the evaluation of unripe crops was probably necessary because it was almost impossible to survey accurately large areas during the harvesting period. Qudama ibn Ja’far provides valuable information about the standard of land-tax (al-tusūq) which varied from time to time and one place from another. "Al-Tusūq al-mukhtalifa" was estimated according to the quality of the land and to the terms of the share-cropping agreement.

In spite of Abu Yusuf’s advice to abolish the practice of the Kharg and the Ḥazr, there was no restriction on them by the government. The difficulties of surveying all the cultivated lands, or sharing the actual produce of the country during such a brief period, made it almost impossible to operate any reform against the corrupt practices in operation. In addition, the security of the treasury’s finances and the needs of the government seem to have precluded any assistance given by them in this respect.

iv) The Reform of the Revenue Calendar

The institution of this reform by both the Caliphs Mutawakkil and Mu’tadid represent an important step in the history of agriculture in Iraq. It is, however, necessary to point out that the principal

1 Lørkegaard, op. cit., pp. 124-5.

2 Qudama, Kitāb al-Kharāj (MS), f. 88a; Ben Sheemesh, Islamic Taxation, II, pp. 38-9.

3 Baladhurī, Futūh al-buldān, p. 379.

4 Abu Yusuf, op. cit., p. 62.
elements of this were in the revenue calendar before the date of the first reform. It is also necessary to understand the difficulties which normally faced the cultivators in order to evaluate the step taken by these two Caliphs.

Since the early years of Iraq occupation, the Muslim revenue practice had depended on the lunar year. Both the taxes, the gadaqa and the jawālī, were collected on the lunar-year basis. In the villages however, the jawālī tax was collected at the same time as the land tax which was on the basis of a solar year. In addition to the Islamic calendar which commenced from the time of the prophet's emigration (hijra) to Medina, several other calendars were in force in different localities. The Persian calendar was used in Iraq and in the eastern provinces, while the Coptic calendar was in use in Egypt and the Greek calendar in Syria.

As to the land and other agricultural taxes in Iraq, the bulk of revenue payments were made in accordance with the Persian solar year which usually commenced with the nāwruż. This was, in fact, regarded as the midsummer Solstice. It was the time

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1Ibid., p.32; Maqrizi, Kitāb, II, pp. 19-20; Ibn Hawqal, op.cit., p.308. cf. Mez, Renaissance, pp. 107-8; EI, s.v. 'nawruz'.

2Maqrizi, Kitāb, II, pp. 39-40. The lunar year has 354 days, the Persian, 365, the Coptic, 360 and the Greek, 365 1/4 days.


4Bīrūnī, Chronology, tr. Sachau, p.185; EI, s.v. 'nawruz'.
of harvest and marked the date when kharāj was collected. The Persian year, however, fell annually about six hours behind the Solar year, which amounted to a quarter of a day in each 365 days, and in order to render it comparable, one extra day was added in each period of four years. ¹ This practice assisted the land workers to pay taxes more easily when the crops had been harvested.

Yet in spite of the introduction of the new Islamic calendar, Muslim rulers preferred to adopt the Persian practice of *nawrūz*,² which is frequently represented in Arabic works as *nairūz*, although it is not found in the Muslim lunar year.³ Ṣamza al-Iṣfahānī states that in the first year of Hijra, *nawrūz* fell on the 18th Hazīrān (Juno) which he erroneously equates with the 1st Dhul Qiʿda. The *nawrūz* was calculated on a similar basis to that of the Persian year, and was the starting date of the financially year as far as tax collection was concerned.⁴

According to the Qurʾān, intercalation is strictly forbidden and, as has already been mentioned, the Islamic calendar was related to the lunar months and indicated specific dates for worship, such as pilgrimage and fasting.⁵ But the prohibition seems to have been

⁵ Qurʾān, Sura IX, verse 26.
enforced to cover many kinds of intercalation, including the Persian practice of adding one day in every four years to allow the time of year to correspond with the position of the sun.\(^1\) It would seem, however, that the main reason for the prohibition was not for religious principle but the greed and unscrupulous avarice of the revenue officials who found it to their advantage to retain the unintercalated year.\(^2\) The lunar calendar legalised the collection of taxes much earlier in the year and no consideration was given to the confusion and difficulties which it caused to the cultivators. Those who worked in the Sawād were forced to pay taxes on their land and cultivation while the corn was still green.\(^3\)

Moreover in the villages of the Sawād, ahl al-dhimma not only had to pay kharāj tax but also the jawāli tax together with other charges in advance of the harvest.\(^4\)

By the end of the Umayyad period, the date of kharāj collection had advanced by a little more than a month and, as time passed, the gap widened until there was a difference of almost two months by the first half of the third century A.H. The nawrūz, which originally fell on the 17th June (Hazīrān) now coincided with approximately the end of April. Birūnī describes the effect of this advancement on the cultivators of the Sawād. He says that it

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\(^1\) Biruni, Chronology, p. 37.

\(^2\) Masʿudī, Tābībih, p. 215, cf. Et, s.v. 'nawrūz'.

\(^3\) Biruni, op.cit., pp. 31-3; Maqrizi, Kitāb II, pp. 39-40. cf. Duri, Itiṣāh, p. 39.

\(^4\) Ahl al-dhimma in the Sawād had to pay their poll-tax in addition to the kharāj. Abu Yusuf, op.cit., p. 32.
did a great deal of harm to the people, so that they were compelled to incur debt and even to emigrate from their homes; complaints and wrongs were too numerous to count.¹

The first attempt to rectify this problem was made by the Caliph Mutawakkil who made a personal investigation of the position which led to the reform of the revenue calendar. There were, however, disputes among contemporary and also among modern historians in regard to the actual date of Mutawakkil's revenue reform calendar. Ṭabarī, who was contemporary, gives detailed information concerning this. In his annals of the year 245 A.H. (859 A.D.) he states that the date to which nāwruz was moved was Saturday, 11th Rābi‘ al-‘awwal/17th Hazīrān/28th Ardebihisht (according to the various calendars.)² Biruni, who gives the year of the reform as 243 A.H. (857 A.D.) coincides with other information provided by Ṭabarī as to the day and month of this event.³ Maqrizi, who died in 845 A.H. (1441 A.D.), stated that the revenue calculations for the year 241 A.H. (855 A.D.) were entered together with those of the year 242 A.H. (855 A.D.) and the revenue account was then brought up to date.⁴

¹Biruni, Chronology, p.31.
³Biruni, Chronology , pp. 36-7.
It would seem that the actual date of the revenue reform calendar under the Caliph Muktawakkil, as given by Tabari, is more reliable than that given by Maqrizi. Tabari quotes from the court poet, al-Buhturi, who was a contemporary witness of the event, as was also Tabari. In addition, he lived in Baghdad and was in direct relation with events in the capital, and because of the care and accuracy of his statements there would appear to be no reason to suggest that he was prevented from stating actual fact on this occasion. Maqrizi's work is from a later period and another place, and his information is gathered from other sources.

In his reconstruction of the fiscal calendar reform, Taqizada rejects Maqrizi's account as giving the incorrect date of implementation. He argued that in 243 A.H. (857 A.D.) there was no Nawruz and that the next one fell in 254 A.H. (858 A.D.). The actual reform may have been possible in that year, but the Caliph Mutaawakkil was away in Damascus, and it is unlikely that he initiated it at that time. Taqizada concludes the date to be 245 A.H. (859 A.D.) which agrees with the statement of Tabari.  

\[\text{Buhturi, the poet, says on this occasion:} \]
\[\text{الى} \]
\[\text{An} \]
\[\text{د} \]
\[\text{En} \]
\[\text{ذ} \]
\[\text{غ} \]
\[\text{Ar} \]
\[\text{ش} \]
\[\text{Ardashir}, \text{Tabari, III, p.1448; Ibn al-'Amir, op.cit., vol. VII, p.34.}\]
\[\text{It is worth mentioning that Maqrizi quotes ibn al-Mudabbir, who was contemporary to the event.}\]
\[\text{Taqizada, 'Various eras and calendars used in countries of Islam', BSOAS, IX (1957-59), pp. 908-10.}\]
Professor Dūrī considers the statement both of Birūnī and Maqrīzī and suggests that the first stop was taken in 243 A.H. (857 A.D.) which coincides with the statement by Birūnī.\(^1\) Miḥāḫ completely rejected Taqrīzada's conclusion and considered that Maqrīzī's account was correct.\(^2\)

Whichever date is correct, the point accepted unanimously by all sources is that the date for the collection of taxes was adjusted during the forties of the third century A.H.,\(^3\) and that such a measure was taken to relieve the strain upon cultivators in an attempt to end their just complaints.\(^4\) The reform, unfortunately, had no lasting effect, and the same difficulties began to face the cultivators. The sources speak of several occasions when the 'irritāḥ al-kharāj\(^5\) for the following year took place during the previous one, when land taxes were officially collected in advance. Ṭabarī says that on the 1st Ramadān 225 A.H. (13th August 869) the collection of kharāj tax for the year 256 A.H. (870 A.D.) began in 255 A.H. (869 A.D.).\(^6\) Cultivators complained that most of the crops for the existing year were not even gathered. Similar statements are to be found among several papyri collections. In the PERF Papyri collection reference is made to

\(^1\)Dūrī, Iqtiṣādī, p.39, no.1.


\(^3\)The Caliph Mutawakkil ordered the solar year to be adjusted with the lunar year by intercalating 33 lunar years and making them equal to 32 solar years. Maqrīzī, Khīṭāt, vol. II, pp. 41-2.

taxes due for the year 253 A.H. (867 A.D.) being demanded during the year 252 A.H. (866 A.D.).

1 Similar information is found in other collections. There is a reference in P. Berol collection to the kharāj tax of the year 253 A.H. (867 A.D.) which should not have been taken until the year 254 A.H. (868 A.D.).

Another occurs in PER. Inv.Ar.Pap; there it is found that kharāj tax for the year 260 A.H. (873 A.D.) had been collected in 259 A.H. (872-3 A.D.).

3 Again, in PSR collection, kharāj tax for the year 268 A.H. (881-2 A.D.) represented the amount due in the year 269 A.H. (882-3 A.D.).

4 Further injustices of this are mentioned in the PERF collection concerning similar pre-due taxes for the year 274 A.H. (887-8 A.D.) being taken in the year 273 A.H. (886-7 A.D.).

All these instances suggest that al-Mutawakkil's attempt to reform, as has already been stated, were not continued after his death. The Caliph Mu'taḍid was compelled to adjust the date of the nawrūz. Tabārī indicates that, in Muḥarram, 282 A.H. (March 895 A.D.) the Caliph Mu'taḍid circulated an order which abolished

5 Bosworth, "Abu 'Abdallah...", pp. 134-5.

6 Tabārī, Ta'rikh, III, pp. 1738-9.

PERF collection, No. 279.

2 P. Berol collection, No. 9067.

3 PSR Inv. Aw. Pap. No. 3628, lino 5.

4 PSR, No. 187, lino 4.

PERF No. 836, lines 3-6.
the traditional day of nawrūz or na‘īrūz al-‘ājam and instituting an official day for the commencement of kharaj-collection (iftitāḥ al-kharaj) which was stipulated as the 11th June, and known as al-na‘īrūz al-Mu‘taṣidī. This coincided with the solar and not the lunar year.¹

Birūnī points out that there was a difference between the calculations made by Caliph Mu‘taṣid and those made earlier by the Caliph Mutawakkil in respect of the commencing date. Al-Mutawakkil calculated the commencement of nawrūz from the beginning of the reign of Yazdejīrd III, whereas the Caliph Mu‘taṣid’s calculations were based from the end of Yazdejīrd’s reign.² It appears, however, that neither calculation was accurate and do not coincide with the original date of nawrūz as estimated by the Persian calendar.³ The reform made during Mu‘taṣid’s reign, however, adjusted the date of collection to commence after harvesting the crops and was describ-1 as being "a memorable benefit to the nation".⁴ Ṭabarī quotes from an official letter sent from the Caliph to the head of diwan al-Kharaj,⁵ when the Caliph himself was in Mosul, and includes his order in this respect. It also indicates that the main reason for this reform

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²Birūnī, Chronology, p.37.
³The intercalation allowed only 60 days instead of the 77 days
was the personal desire of the caliph "to treat the people with kindness and to let them live in ease".\(^1\)

Moreover a significant reference given by Tābarī indicates that the reform was an effective stop towards stability which had been lacking during the Zang revolt. It was certainly sufficient to encourage the return of emigrant cultivators to their villages and farms. This was doubtless the reason why the Caliph himself gave orders that the reform should be announced and his letter to the diwān was to be publicly read.\(^2\) Whatever the reasons, credit must be given to the Caliph Mu’taṣīd. The reform seems to express his desire for the betterment of the population.

The two reforms with which this chapter is concerned are the only ones recorded concerning tax collection during the period of this study, and are indeed, the only ones mentioned during the first four centuries of the Islamic history of Iraq.\(^3\)

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2. Ibid.
3. The chief of Dīwān al-Kharāj at that time was Yūsuf ibn Ya‘qūb. Ibid.
5. Ibid.
6. The next attempt to reform the date of tax-collection was during the reign of Jalāl al-dawla Malik-Shāh (465 A.H./1072 A.D.). Eil., s.v. 'nawrūz'.

which was the actual difference between the old Persian calendar and that in practice during the time of Mu’taṣīd. See Bīrūnī, Chronology, p. 37.
v) The Policy of 'Iqtā'.

A problem which faced the economic structure of the Abbasid state, and specially affected its agricultural policy, was the 'Iqtā'.

After the early Arab conquests of Iraq, the land could be classified broadly into three categories:

a) that which continued to be held by its original holders who had agreed, whether by peaceful negotiation or by force, to pay the land tax (Kharaj);¹

b) land which had been abandoned by its owners, thus providing the basis of the private state. This included practically all the Sawafi and the milk lands;²

c) land which had had no specific owner since the pre-Islamic period and was considered, after the Arab conquest, as common land.³ Some of this was known as waste land (nawat); uncultivated land (ghamir) or pasture land. Included in the common land were highways, roads, river banks, etc. In theory, grants of land were only permitted to be made from the second category, and the granting was the prerogative of the ruler, and the recipients, theoretically Muslim.⁴

¹ This is the kharaj land or ard al-fay, whether conquered by force or peacefully agreed. Qudama, Kharaj (MS), fols. 80b-83a. cf. Ben Shemesh, Taxation in Islam, vol. II, pp. 25-9.


³ Ibn Bundun, Tadhkira (MS. RP), vol. IV, fol. 247a.

⁴ Abu Yusuf, op. cit., pp. 33-4, 55.
In practice, however, it proved impossible to prevent the conquerors from annexing large areas of land as private property from all three mentioned categories. These lands were known as qāṭī'as (singular qāṭī'a) and were subject to the 'Ushr (tithe). Grants thus obtained differed from the relatively large areas of land as qāṭī'as which Becker and others have compared with the emphyteutic grants of the Byzantine Empire. Rather they were similar to the small oistros which were held in full ownership by the peasant-soldiers of the Byzantine frontier areas as payment for military service. In the course of time the qāṭī'a grants came to be known as iqṭa'.

Qudāma ibn Ja'far uses both the terms "iqṭa'" and "qāṭī'a" to mean a hereditary grant which was subject to the 'Ushr; whereas he calls a non-hereditary grant tu'ma. Khawārazmi defines the tu'ma as an estate handed over to a person in order to cultivate it and on which the tithe must be paid. During the period of his lifetime it was his property, but at death it reverted to the state. and was known as murtajī'a. Such

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1 Qudāma, op. cit., fols. 97b-80a. There is no doubt that the institution of 'iqṭa' can be traced to the time of the Prophets. Løkkegaard says that it was genuinely Arabic in origin, despite any foreign elements which afterwards entered the nation. cf. Løkkegaard, op. cit., p.14; Lambton, 'Reflection'. p.360.


3 Qudāma, Kharaj (MS), fol. 86b; cf. Bon Shomosh, Taxation in Islam, II, p.36, n.5.

4 Khawārazmī, Ma'āfītih, p.60; cf. Bosworth, 'Abu 'Abdallah...', JESHO p.133; Løkkegaard, op. cit., pp. 60, 152.
practice differs, however, from that of the Ḣār and Ṭaswīgh.

Both Ḣār and Ṭaswīgh seem to be another type of grant. The Ḣār is a tax-free grant of land by a ruler to an individual. Qudama, in his comment on Ḥār and Ḥār yaqtin, written in the 10th century, states that the price of Ḥār was not even known during pre-Islamic times. The sources speak of several dayās in the Sawad granted to Yaqtin Sahib al-da'wa at the commencement of the Abbasid state, which became known of Ḥār yaqtin. Both Qudama and ibn Khurradadboh refer to other Ḥār lands, known as Ḥārān. Qudama mentions Ḥārān in connection with a number of dayās from several districts and sub-districts of the Sawad. He also refers to several Ḥārs in various districts of the Abbasid domains other than those referred to as in the Sawad. Ibn Khurradadboh, on the other hand, mentioned other Ḥārān in various dayās in the Saiyybān and al-Waqūf and a number of other districts in southern Iraq.

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5 The Ṣirīja was the technical term for the resumption of land grants. See Amadroz, op. cit., p.832; cf. Sourdel, op. cit., II, p.592; Bosworth, op. cit., p.133.


2 Qudama, Nubadh, p.241.


4 Qudama, Nubadh, p.243; ibn Khurradadboh, op. cit., p.36.

5 Qudama defines the Ḥār as a fief protected from the interference of tax collectors, supervisors or their agents. For such protection a yearly lowy was imposed in the name of the Imam, treasury or
Khawarazmi describes the ḥighārs as "land which cannot be entered upon, that is the estate or village in question was considered inviolable and no ʿmil may enter it." The beneficiaries had the right to pay their dues yearly, either to the central treasury in the capital or to that in the provincial cities.  

In practice, this privilege allowed the landowners to farm their own taxes and guaranteed them himāya against the extortion of unscrupulous tax-collectors. If a landowner became overburdened by taxation he would seek protection from a higher official, or perhaps a vizier or even a prince. He would convey his land to the great man who became responsible for the taxation due from the land. In this way, the circumstances of taḫiʿa were spread. When it passed under the taḫiʿa, the new owner escaped payment of the accrued tax by assimilating the acquired land to qatīʿa land which only paid the ḫushr (i.e. the tithe). Under certain conditions the owner of the ḍayʿa under consideration had to pay an additional amount, either as a fixed cash payment or a certain portion of the produce of the ḍayʿa to the second party.  

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6Such as Mahrājān-qadha, Masabdhān and Qum. See Qudama, op.cit., fol.86a.  
7Ibn Khurradābīb, Masalik, p.19.  
2Ibid.  
4Tomkins mentions that a landowner offered to give the Caliph Abū Jaʿfar al-Manṣūr 25% of the products of his own land in addition to the usual tax on condition that the Caliph would allow the land to be registered under his name as a precaution against the extortion of the tax-collectors. Nishtar, VIII, p.76.
The right to receive this fee, as Professor Cahen points out, made the land the property of the superior party and the land under himāya might be inherited as could be any other type of property. The practice of the himāya sometimes resulted in a shared property, but as time passed, the protector often became the virtual owner, because it was usually impossible for the original owner to prove his claim against the assertion of a superior who referred to the tax register for confirmation of the claim.\(^1\) Under these conditions many of the original landowners were reduced to the status of mere share-croppers or motayer.\(^2\)

The conditions also indicate the use of talji’a by the more powerful landowners to build up for themselves very large domains and perhaps provided justification for the confiscation policy which was followed by the Abbasid Caliphs during the first half of the 3rd century A.H.\(^3\)

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\(^3\) Both Qudāma, Nubādī, p.241 and ibn al-Faqīḥ, Buldān, pp. 282, 284, mention many cases of ‘iljā’ and that the Unayyad Prince Maslama b. ‘Abd al-Malik was the protector. Jahshiyyarī, Mura‘a, p.118, refers to one case of ‘iljā’ by an Abbasid vizier; cf. Dūrī, Iqtiṣādī, p.34; Løkkegaard, op.cit., pp. 67, nos. 244-245.

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Professor Lambton, however, considers the 'ighar to have been partly tax-free and partly hereditable.\(^1\) Løkkegaard, on the other hand, states that the 'ighar was only practised on a freehold estate, and that it was frequently the favourites of the court who were able to obtain those favourable grants.\(^2\) Moreover the 'ighar could be transmitted hereditarily and no legal action against the holder could subsequently be enforced. When a contract had to be renewed, a fine for this service could not be exacted.\(^3\) It would seem, however, that the nature of the tenure of the 'ighar could be changed in accordance with the caliph's decision. Balādhurī, for instance, produces an example which, although it concerned a province other than the Sawad, proved that the legal statute and the tax dues on it relied mainly on the decision taken by the Caliph.\(^4\)

\(^1\) In the year 240 A.H./854 A.D., according to Tabarī, 4,000 jarībs were confiscated from the Qāḍī Yaḥya ibn Akthān alone, Ta'rikh, III, p.1421. More examples were produced by Tabarī and other sources. See Tabarī, op.cit., III, pp. 1378, 1445; also Ya'qūbī, Ta'rikh, II, pp. 592-3, 597, 600; cf. Dūrī, Latīsādī, pp. 278-83; Mīr, op.cit., pp. 236-7; Levy, III, Suppl. s.v. 'Maṣʿādara'; Bosworth, op.cit., p.138.

\(^2\) See Qudāma, Khāraj (MS), fol. 98a; cf. Løkkegaard, op.cit., pp. 62, 189-90.

\(^3\) Qalqashandī, Subh al-aʿṣā, XIII, p.131; cf. Løkkegaard, op.cit., p.190.

\(^4\) Balādhurī, Futūh, p.187.
another example in this respect when he mentioned details of the argument between Ḥāmid ibn al-ʿAbbās and ʿAlī ibn al-Furāt, the ex-vizier, during the reign of the Caliph Muqtadir. Ḥāmid accused ibn al-Furāt of paying no taxes on his lands under the pretext that they were Ḥār. These references all point to the conclusion that the Ḥār was a special privilege grant during the period under consideration. This view agrees with that of Professor Cahen, who considers the Ḥār as an exemption or privilege with respect to taxes.¹

Løkkegaard connected the term taswīgh with the tax immunity enjoyed by the grantee of an Ḥār and asserted that the terms were, at times, synonymous.² Professor Cahen points out that the taswīgh is really an exemption from taxation or a reduction granted as an occasional privilege for a year or annually.

The practice of ihtimal, on the other hand, seems to be similar to that of the taswīgh, and refers to an exemption from dues on land for a certain period.⁴ The difference between them appears to be that while the ihtimal was an exemption from all land taxes for a limited time, the taswīgh claimed a percentage of reduction for the duration of the cultivators lifetime.⁵ Khawārazmī gives

¹Ṣābi, Wuzara⁵, p. 42. cf. Durī, Iqtisādī, p. 35.
²Løkkegaard, op.cit., pp. 69-70, 189-90.
⁵Ṭabarī, vol. III, pp. 774-1030; ibn al-Faqīḥ, op.cit., p. 270;
the terms ḥafīḍa and tarīqa the same definition as ṭaswīgh.¹

Both the ḥiṣr and ṭaswīgh were made on kharāj land and were under diwān al-kharāj, while the ḥuna and the qatā'i² were taken on that which was not kharāj land. These were under diwān al-diya.²

According to the sources the 'iqṭā' is defined as a grant of land to a person (muqta') by a ruler (muqti'). According to this grant, the muqta' was entitled to dispose of it as he wished. It could be converted to buildings, orchards, used for agricultural cultivation, fallowed or sold, and full hereditary rights were included in the grant.³ Mez suggests that the conception of the 'iqṭā', whether in the eastern or western provinces, of Islamic territory, was inherited from earlier periods. Mez, however, depended on Abū Ǧūṣuf's statement concerning the qatā'i in the Sawād. Close examination of Abū Ǧūṣuf's statement concerning this matter, and according to the explanation given by Qudāma later in the fourth century, it would appear that gave his opinion without a clear understanding of the source in this respect.⁴

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¹ Khawarazmi, op. cit., p. 60; Bosworth, op. cit., p.134; cf. Dozy, I, 300b-301a.


⁴ Abū Ǧūṣuf, op.cit., p.32. Qudāma, however, refers to six categories under the title of Sawāfī, as being the kind of land liable to be
A comparison of the main characteristics of the 'iqṭa' during the period under consideration with the characteristics of Sassanid feudalism shows that the 'iqṭa' system of the Abbasids was not derived from any of the various types of feudalism found in pre-Islamic Persia. The views expressed by Professor Lambton are more acceptable. They show that the circumstances which accompanied the rise and development of the 'iqṭa' system and the circumstances of the Arab conquest were not a continuation of Sassanid feudalism in Islamic dress.¹

Abū Yūṣūf points out that the Imam (i.e. caliph) could grant 'iqṭa' only from his own estates, which included the ṣawāfī.²

Another scholar of the Ḥanbalite school emphasised that under special conditions the 'iqṭa' could be granted from kharājī land.³

Abū Yūṣūf, however, opposed any grant from the common property of the Muslims. This included rivers, roads, ponds and all other communal property in addition to kharājī lands.⁴ Sometimes a land was not originally kharājī land but was watered by kharājī

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² Abū Yūṣūf, op.cit., p.32.
³ In Kitāb al-īstikhrāj fī ahkām al-kharāj, fols. 117a, 136a, Ḥabīb al-Ḥanbālī mentions 'iqṭa al-ījara, which he describes as a conditional grant by which the muqṭa had to pay a certain sum of money or a fixed percentage of produce regularly, which was considered as ḥaq al-fay (i.e. the kharaj tax). Then he gives his definition of the legal 'iqṭa', stressing the regular payment which he considered to be similar to rent.
rivers. There were occasions when it was given as 'iqta' despite the fact that it was theoretically regarded as kharāji land,¹ but in practice, jurisdiction rules were often ignored.² The fief-holders (muqtā'in) contrary to other feudal landlords, had no special military obligations, but their land was subject to 'ushr (i.e. 10⁰/₀ of the yearly produce). The muqtā' was responsible for his share of the cost of newly created watercourses, and the maintenance of irrigation canals and bridges within his 'iqta'.³

The caliph continued to be the only granter of the 'iqta' during the third century. However, due to financial or personal reasons and in spite of contradiction of the principle of 'iqta' as indicated by the jurists, the Abbāsid caliphs frequently confiscated or revoked an 'iqta'. Such incidents were more frequent during the latter years of the third century — indeed, so much so, — that the establishment of a special diwan al-Murtaji'a or al-Murtaji'at became necessary.⁴

The jurists, however, considered the 'iqta' mainly under two headings. These were based on whether the rights of the muqtā' conferred by the 'Imām included heredity. 'Iqtā's were classified

¹Abū Yūsuf, op.cit., p.53.
²Ibid., p. 53.
⁴Tabarī, Ta'rīkh, III, p.2153.
⁵Ibid., op.cit., p.145.
as 'iqṭā' 'ijara and 'iqṭā' 'Tamlīk. The first of these, which later became known as 'iqṭā' 'istighlāl', was an allotment for the purpose of taking the proceeds of the land assigned on condition that the beneficiary paid the 'ushr' (i.e. 10% o/o), as fay'. Such 'iqṭā' however, had no hereditary right.

The 'iqṭā' 'tamālik was a grant made of a piece of barren land (mawāt) given to the muqta' on condition of its resuscitation, or a grant of cultivated land to which there was no heir. In the latter case the muqta' was given full hereditary ownership and was liable for the 'ushr'.

The 'iqṭā' depended upon the reason for its grant having been made by the muqta' (i.e. the caliph) to the beneficiary. In some instances the rights conferred according to the 'iqṭā's appear to have been negligible. The sources speak of many 'iqṭā's granted by various caliphs. The beneficiaries usually held high-ranking posts such as 'amils, viziers, jurists, poets, singers, palace attendants and soldiers.

During the third century, 'iqṭā's seem to have been granted in three distinct ways: - those to civil servants, military servants

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3 Such forms of 'iqṭā' were sometimes known as 'iqṭā' 'taadmīn; cf. Løkkegaard, op. cit., p.59, no.189.

4 Qudūma, Khāraj (MS), fols. 90b-91a; Khawārazmi, op. cit., p.60; cf. Løkkegaard, op. cit., pp. 58-9; Ben Shemesh, Taxation in Islam, II, pp. 37-41; Bosworth, op. cit., p.133, also Dūrī, Iqtisādi, p.28.
and private 'iqṭā'. Those granted to civil servants were in lieu of salaries, many recipients holding the post of vizier appear to have been entitled to receive special 'iqṭā', the produce from which replaced the salary due. Such 'iqṭā' which were known as 'iqṭā' al-wizāra were neither hereditable nor were they even for the lifetime of the beneficiary, but only until the expiration of the vizier's term of office when his right of 'iqṭā' al-wizāra was transferred to the new vizier.1 An example of this type of 'iqṭā' occurs when Sabi submitted his list of expenditure during the reign of the Caliph Mu'taḍid.2 The vizier, 'Ubaidullāh ibn Sulaimān, seems to have received his salary from the treasury until 'iqṭā' al-wizāra was in production, at which time his salary ceased.3 This kind of 'iqṭā' was usually extensive and its produce far above even the vizier's high rate of expenditure and was sufficient to cover the needs of his family and dependents.4

In this particular instance, provided by Sabi, not only did the salary of the vizier cease, but he was able to pay 200,000 dinārs yearly during his term of office.5

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3 Ibid., pp. 25-6.
'Arib al-Qurtubi later refers to this type of 'igtā' as being administered by a special diwan known as diwan 'igtā' al-wizarā, which was set up to deal with them.\(^1\) This does not, however, indicate the dimension of the 'igtā' al-wizarā nor yet when the practice commenced.

The sources speak of similar grants made by the Caliph Mu'tasim to other high officials such as the secretaries of the diwāns in Samarra.\(^2\) There were also similar grants given to the Kuttub in 245 A.H. (859 A.D.) by the Caliph Mutawakkil to celebrate the building of the new residential area to the north of the capital of that period.\(^3\) Military personnel were sometimes granted 'igtā's and such practices had been known in Iraq during previous periods.\(^4\) During the third century A.H., the sources speak of 'igtā's granted to the chief of the military forces. The Caliph Ma'mūn granted 'igtā's to Tāhir ibn al-Ḥusayn; the Caliph Mu‘tasim, who reinforced his military strength with Turkish soldiers, granted the Turkish leader Ḥanāsf and several of his staff important 'igtā's in a district of his new capital, Samarra.\(^5\)

During the reign of the Caliph Wathiq, the 'īytā Khīyya, which lay to the east of the capital and was watered by the Qāfūl Canal, a most important fruit-producing district became an 'igtā' granted by the caliph to the Turkish leader 'Īytākh. The Caliph Mutawakkil gave a similar grant according to Tabarī, when he granted Wāṣif and other

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\(^1\) 'Arib al-Qurtubi, op. cit., p.135.

\(^2\) Ya‘qūbī, Buldan, p.258.

\(^3\) Tabarī, Ta‘rīkh, vol. III, p.1438.

\(^4\) The 'igtā' granted by the Caliph Hanūn al-Rashīd to his leader Abd al-Malik ibn Šalih was one of the many examples in this respect. See Maqrīzī, Khiṭat, vol. II, p.103.

\(^5\) Ya‘qūbī, Buldan, pp. 258, 277.
military leaders 'iqṭā's in the area around his capital, Samarra, in the vicinity of Mābūza and Hīr.\(^1\) In 250 A.H. (864 A.D.) the Caliph Musta‘īn granted Muhammad ibn 'Abdullāh ibn Tāhir a portion of the highly productive Sawāfī land in the Tabaristan area.\(^2\)

Bāghīr, the Turkish officer, who seems to have taken part in the murder of Caliph Mutawakkil, was granted several villages in the Sawād near Kūfa, also as 'iqṭā's. Tabārī says that some 2,000 dinārs were paid yearly to Bāghīr as dāmān for this grant.\(^3\) Iṣṭakhrī, later, describes how the granting of 'iqṭā's was used by the Abbasid caliphs on a large scale in their efforts to keep the Turkish leaders busy and together of them.\(^4\)

It's worth noting that 'iqṭā's, whether granted to soldiers or to high military personnel, did not commit the recipients to any form of military service. The large number granted the Mustaghilla land, in the area near the capital Samarra, help to provide an idea concerning 'iqṭā'al-istīghlāl which was assigned to soldiers. It does not, however, indicate the size of the portions of land assigned to individuals. It would seem that frequently the 'iqṭā' was relatively small and only sufficient to support one

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\(^3\)Ibid., p.1535; ibn al-‘Athīr, op.cit., vol. VII, p.52.

\(^4\)Iṣṭakhrī, op.cit., p.142.
family. Professor Lambton suggests that it "differed from both the large emphyteutic grants of the Byzantine Empire and the large estates which had formerly existed in the Sassanid empire".  

According to Professor Cahen, the assignments to military personnel were made by the treasury diwan bayt al-mal with the concurrence of diwan al-nafagat and diwan al-jaish. 

Private grants, 'iqqa'at Khassa, can be classified under two categories. The first type of 'iqqa' was that granted by the caliph to individuals, and not to official, civil or military personnel - they were rewards of merit. The sources produce evidence that 'iqqa' of this kind conferred the muqta' with full hereditary ownership and were normally made from part of the Sawari land. On the occasion of his marriage, to Buran, the daughter of al-Hasan ibn Sahl, in Ramadhan 204 A.H. (Feb. 820 A.D.), the Caliph Ma'mun granted his father-in-law the Silh as 'iqqa' in addition to one million dinars. Al-Khatib al-Baghdadi points out that the cultivated lands on both sides of

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1 Lambton, 'Reflections...', p.361.

2 Cahen, 'L'evolution de l'iqta'...', Annales, ESC (1953), pp. 36-7; cf. Lambton, 'Reflections...', p.368; Løkkegaard, op.cit., p.120; Mish, op.cit., p.241.

3 For example, see Tanukhi, op.cit., vol. VIII, p.28; Sabi, op.cit. pp. 163-4; Aghani, vol. V, pp. 166-176.

4 Khatib al-Baghdadi, Ta'rikh Baghdad, vol. VII, pp. 320-1; Taifur, Baghdad, p.209; ibn Khallikan, however, says that the event took place not as mentioned above, but in Shawwal, 210 A.H./Feb.826 A.D.
the Sarat Canal were originally 'iqtā' from the Caliph Abū Ja'far al-Mansūr. When his heir, 'Uqba ibn Ja'far ibn al-'Ash'ath, rebelled against the Caliph Ma'mūn, his inherited 'iqtā' was confiscated and was granted by the same caliph to the sons of 'Isa ibn Ja'far. The sources speak of a number of 'iqtā's granted to individuals occupying no official position such as muhaddiths (traditionalists), poets and singers. During the first half of the third century, especially during the reign of the Caliph Mutawakkil, several 'iqtā's were granted to many of his subjects, such as his poet, al-Buḥtarī, the possession of which 'iqtā' remained in the possession of his heirs until the next century.

The second category of these grants was those 'iqtā' given in neglected states. This policy was adopted in order to encourage the cultivation of barren or deserted land. The procedure was that the muqta' undertook the responsibility and expense of reclaiming the land and to attract peasants to work for its cultivation. He further undertook to supply peasants with seeds and money, and made himself responsible for the clearance and drainage of canals and water courses of the land. In return he was given full title to the granted land which his heirs could claim upon his

2 Ibid., vol. VI, p. 368. The author of Kitāb al-Aghānī produces evidence that many of the poets and singers received 'iqtā's, especially during the first half of the third century, A.H. For example, see Aghānī, vol. V, pp. 178-84; vol. XI, pp. 348-9.
disease. The owner would pay a yearly sum to the state, but was exempt from any other tax or from official intervention. In the Sawād, this type of 'mqtt' seems to have been granted in order to revive the land which had been neglected as a result of rebellions and the ensuing unstable situation in Iraq. The Zang revolt, for instance, caused a large-scale emigration of peasants and cultivators who often fled to save their lives, leaving their cultivations and homes for the greater security of the towns. This latter type of 'mqtt' included not only neglected or forsaken land but also waste or devastated land. Sometimes 'mqtt's were granted on condition that the mawāt land (sometimes called ghamir) would be broken for cultivation and would become liable for taxation after a fixed number of years.

It is worth noting that the term 'mqtt' was sometimes used in a different sense. Under certain conditions, no complete right of ownership and inheritance was given, not even the right of beneficiary for a fixed period. In these cases it was probably used merely for title and show. An example of this occurred when the Caliph

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2 Tabari mentions that, after capturing Wasiṭ, the Zang advanced as near as Naʿmaniyya, which was a short distance from Baghdad, and that they captured this city, set fire to its markets and destroyed most of the houses. Then they advanced to Jarjarāya, in the countryside of Baghdad. It is not surprising that most of the cultivators of the Sawād left their lands and fled to Baghdad to save their lives. See Tabari, Tarikh, XI, pp. 253-4; Ibn Abī al-Ḥadid, op.cit., vol. VIII, p.164; Ibn al-ʿAthir, op.cit., vol. VII, pp. 74, 177.
Mutawakkil in 205 A.H. (849-50 A.D.) announced his three sons as regents. According to ibn al-‘Athîr, he granted each of them as an ‘iqṭā’ several provinces of the Abbasid state.¹ This does not indicate that either the actual land of the provinces or their produce were conferred upon his sons as their personal property, but that their value lay in the conferment of the dignity bestowed on them by the Caliph.

The evaluation of the ‘iqṭā’ was according to an average, calculated on the basis of an average of the amount of taxes collected during a certain series of years, and was known as "ibra".² Professor Cahen suggests that the uses of such an average had existed since the advent of Islam and went back even further, perhaps to Roman times. Moreover, he indicates that the term ‘ibra’ was given, during medieval Muslim administration, to the assessment of the fiscal value of the lands in question.³ It is not always easy to see how it was established and what its connection was with the taxes actually levied. Full discussion of the ‘ibra’ and a description of the method by which it was generally estimated can be found in various contemporary and later-dated sources.⁴

³Cahen, 'L'évolution de l'iqṭa...', Annales, ESC, p.46.
It was resolved by calculating the tax yield of the best productive year, adding to it that of the least productive and halving the total, after collecting prices and providing against any other contingencies which might arise. Consequently, the 'ibra of the 'iqta' was, theoretically at least, the average of tax yield from the land which was granted as 'iqta'.

Practically, as the calculation of such an average necessitated a longer period of time (between 2-3 years), it is difficult to imagine that the collection of taxes should be delayed until such a calculation had been made. By that time the 'ibra might have ceased to correspond to the actual annual produce of the 'iqta', and may have differed quite considerably by the end of the period needed for the standard calculation of the 'ibra'. The 'ibra, however, seems to have been changed whenever major changes occurred, whether in prices or in any other conjunctures or factors which were originally taken into consideration at the time of calculation, such as the produce and price level, which played a conspicuous part. The period of time according to which function of each 'ibra took place, seems to have been governed in Iraq by those factors, and since the elements which affected these factors were complicated and varied from time to time, and even from one part of the province to another, the supposition of irregularity of the intervals between each 'al'ul and another arises, whereas the cadastral survey


1Khawārazmī, op. cit., p.61; Bosworth, op. cit., pp.135-5; cf. ʿAlī, Lkčany., p.189.
2Cahen, 'L'evolution de l'iqta.' ..., Annales, ESC, p.46.
3Løkkegaard, op. cit, p.105, no.134.
of Sawadi cultivated land took place at more or less regular intervals. In addition, the 'ibra was not employed to calculate the tax-paying ability of the province of the Sawad as a unit only, but was also used for smaller areas, and, in a few cases, some of the sources refer to the 'ibra of a certain day'a.¹

During the third century A.H., the sources provide no information concerning any change in the 'ibra or about any ta'dīl, which usually represents an introduction and principal step towards any change in the 'ibra.² On the other hand they contain rich information which reflects the instability of the economical life in Iraq as a result of various reasons. In addition, the Zang rebellion (as has already been noted), and the Abbasid confrontation led to the devastation of most of the villages in the Sawad. Re- construction of the villages later, during the reign of the Caliph Mu'taṣid, in addition to various other reasons, might throw doubt on the effectiveness of the 'ibra, especially during the second half of the third century.³

The units used to calculate 'ibra were a combination of three figures representing each individual 'ibra. They were wheat

¹Azdī, in Ta'rikh al Mausil, II, pp. 215-6, mentions the 'ibra of one small da'im, while Qudama, on the other hand, mentions the 'ibras of both Kurat dījla and Nahr al-Ṣilah for the year 260 A.H./873-4 A.D.). cf. Løkkegaard, op.cit., pp. 105-6.

²Qudama is, in fact, the only author who provides a clear reference to the 'ibra of 204 A.H./819 A.D., and gives the only reference to the 'ibra representing another year. Ibid.; also see chapter VI.

³The prices of wheat and barley varied for many reasons, such as high or low flooding of the Tigris and the Euphrates, wars, epidemics,
and barley in kurr measurement and dirhams. In evaluating these units, Qudama ibn Ja'far clearly states in his calculation of the total value of the 'ibra, that the average value of each combined two kurr of wheat and barley was 60 gold dinars.

He states, moreover, that the value of the gold dinar was equal to 15 dirhams in ordinary currency. The interpretation is, therefore, that the price of one kurr of the juhundum (i.e. half wheat and half barley) amounted to 30 dinars. By applying the value scale of Duzj., it is to infer that the official price of one kurr of wheat was 40 dinars, while that of barley was 30 dinars.5 Those prices, however, contradict those listed in Kitab al-muzara.6 Théron and Thronkrounitz rightly points out, did not

stability of the country, whether affected by conflicts, agricultural activities or conditions of transport. For example, see Tabari, Tarikh, III, pp. 1066, 1885, 2210; Taifur, op.cit., p.134; ibn al-Athir, op.cit., vol. VII, pp. 108, 135, 195; al-Dimashqi, al-ishedarah, p.48.

1Qudama, Nubadh, pp. 236-7; ibn Khurrahbeh, op.cit., pp. 8-14. In three districts, according to the latter, rice replaced the wheat, while in the other one it was milled. Ibid.


3Qudama, Nubadh, p.237; Duzjani, however, states that the value of the dinar was equal to 12 dirhams. cf. Cahen, 'Documents relatifs à quelques techniques Iraniennes au début du onzième siècle', Ars Islamica, XV-XVI (1951), pp. 24, 27.


5The prices given here represent the year 204 A.H./819 A.D. according to Qudama, Nubadh, pp. 236-7. It is well to note that they changed
represent the typical prices prevailing in Mesopotamia in Sabî's time.\(^1\) The prices of wheat and barley mentioned above coincide with the suggestion of Professor Cahen in this respect.\(^2\)

Officially, therefore, the muqta' had to pay his dues to either the central or to the provincial treasury, according to the price rate. It is presumable that he was free to pay the amount of the dues in either of those units.

There is no doubt, as Løkkegaard has clearly demonstrated,\(^3\) that the rule of *ushr* had not been conceived as a form of privilege taxation, where the profiteers of *iqṭa*, who collected their own rents at high rates and paid only the *ushr*, were able to make

a considerable profit. The muqata's themselves suffered in the same way and, in many cases, paid equally high rates as in the other categories of taxation. A double charging of the tithe is known to have been frequently made on one pretext or another; or by a false estimate of the value of the production of the 'igta'. The time came when the 'igta' was not considered to be a privilege and the day'a camo to be considered more and more desirable. In the latter part of the third century one of the most effective roles of the 'igta' lay in reclaiming waste land or in the resuscitation of abandoned villages.¹

Moreover, considerable changes had taken place in the social structure of the Abbasid caliphate,² which caused the 'igta' to emerge as one of the main institutions of the state.³ The over-dominant need of the Abbasid government, especially during the second half of the third century, was for money to finance the operations against the Zang revolt and other crucial problems arose in addition to the payment of al-'ujjat wal arzaq. The muqata'a method of tax collecting was therefore adopted in many areas for the convenience of the government.

¹Dūrī, Iqtisādī, p.30.

²The most striking was in the composition of the military forces of the Caliphate and the increase in the number and power of the Turkish military slave troops, especially noticeable from the reign of the Caliph Mutawakkil onwards, which culminated in the emergence of the Amir al-'Umarah in 224 A.H./936 A.D.

³Lambton, 'Reflection...', p.364.
Professor Lambton has demonstrated that the balance between the civil and military administrations had been upset, and the money received from the farming of taxes ceased to be sufficient to pay both the army leaders and the troops. With the increasing irregularity of revenue collection by tax farmers, the collection of them became a military practice. Those various developments resulted in the new type of 'iqṭā', which differed in its nature from the old form of 'iqṭā'. Professor Cahen compares this in many respects to European feudalism.

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1Ibid., p. 367.

Chapter V

TAXATION

Islamic Jurists differ on the points of view expressed in their various books dealing with the problem of taxation. Some of them affirm that the method of its application had not changed since the rise of Islam. They consider that the Abbasid State invariably followed Islamic religious principles and that taxes were levied accordingly.

The changes in administration which occurred over the years do, however, reflect many aspects of the evolution of Islamic society and of the State.

During the first century of Islam, the meaning of many terms was entirely different from those expressed by the same words in later periods. 'Jizya', Kharāj' and sometimes 'Ṣadaqa' or 'Zakāt' were almost synonymous during the early part of the first century but later became more specific in their application to different classes of tax. 1 At one time - as used in the Qurʾān - the term Kharāj meant wages. 2 Omar I, in his correspondence with his 'amīl in Kūfa, refers to the "Kharāj land" as 'ard al-Jizya (poll-tax lands). 3

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2 Qurʾān

3 Yahya, op.cit., p. 10.
Later, the term Jizya was used in the same sense as kharaj.\(^1\) Sharîk, the Jurist, says that the Jizya paid by Ahl al-Kitâb (scripturalists) is kharaj.\(^2\) It is recorded that some farmers of the Sawâd requested Omar I to change their taxes from Jizya to sadaka.\(^3\)

Thus the interpretations of these terms as given by the Jurists were not clear to themselves and are misleading. They are not clarified in any of the books of history referring to the first century. It would appear that the various writers did not conceive the idea that many terms were, in actual fact, different and they insisted on giving them wrong\(^4\) interpretations. There must, however, be a distinction drawn between the works of those Jurists who mention only the religious aspects of tax collection and ignore the fact that various administrators, for many reasons, imposed other levies, while other historical writers reflect the differences and instability of tax legislation by the various administrators of the Islamic State. These latter sources are the basis upon which this thesis relies, although the works of the others have not been ignored. Abû Yusuf, among others, has been the source of much valuable information.

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\(^1\)Ibid., p. 39.
\(^2\)Tabari, Ikhtilaf, p. 222.
\(^3\)Yahya, op. cit., p. 42.
\(^4\)El, Art 'fay'.
The Jurists, in fact, discuss many of the problems which faced the Islamic society during the period of the Prophet and Rashidun Caliphate. Levies started in these early days of Islam have been considered by them as legitimate taxes *ḍarāʼib shar‘īyya*. With the exception of Abu Yusuf's work, and a few Iraqi Jurists, belonging mostly to the Hanafite school, all others ignore the taxes which were imposed later, which they term 'illicit' — *ḍarāʼib ghār Shar‘īyya*. Abu Yusuf, who was himself a Jurist, prepared his *Kitāb al-Kharāj* at the request of the Caliph Harūn al-Rashīd. This was designed as a guide to administration and to the correction of unlawful taxation with its practice of illicit collection. The principles of Islam govern its conception concerning taxes. It also contains much valuable information which gives a clear picture of the internal situation of the Abbasid State and its methods of tax levy, especially that gained from the Sawād towards the end of the second century A.H.

Kharāj and ʿushr formed the main land taxes in the period under consideration, the kharāj tax was levied from two main classes of land: a) ʿanwa land which included the lands conquered by Muslims and, b) Sulh land which was acquired peacefully.

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3. Ibid., pp. 2-3.
4. Ibid., pp. 60, 114.
Abū Yūsuf says that while the 'ämwa lands were in the possession of Muslims, as represented by the Imam (i.e. Caliph), it was the Imam's prerogative to levy kharāj at any rate he chose, and while he levied only such tax as the population could reasonably afford, he had no obligation in this respect. Loniency was by his good-will and in the spirit of Islam and not by any right of the population concerned. ¹

Owners of the sulh lands were rated according to their capacity, in the case of a peace treaty Sulh 'ala qadr al-tāqa, or 'afū or 'afū. If, however, the peace treaty contained special terms, the tax Shay'musamma was rated at a level according to the terms of the treaty, and the inhabitants paid a fixed yearly tribute. ²

The 'ala qadr al-tāqa tax was discussed by Løkkegaard who suggests it was assessed "according to the 'utmost' ability, which probably means that the 'afū or fādīl (surplus) should be calculated on as high a figure as possible." Moreover, he discussed the origin of this tax and concludes that "'ala qadr al-tāqa was originally connected with a conquest by arms without treaty". ³ Kister rejects Løkkegaard's conclusion and says that the 'afū, fādīl and tāqa conception took into consideration the

¹Abū Yūsuf, op.cit., pp. 100-2.
²Ibid., pp. 47-8.
³Løkkegaard, Islamic taxation, pp. 79-80.
economic changes in the taxpayers' condition and limited the tax-gatheror's demand to a bearable sum. He also refutes Løkkegaard's opinion concerning the origin of this tax and states that "the opposite could be true". He also rejects Løkkegaard's conclusion and says that the people making a treaty would prefer to pay a faq他就 rather than "'alā shay'in Musawwa". Miah states that "the principle of Kharāj on 'anwa lands and on most of the gulh lands was its taxable limits". If, by this somewhat ambiguous statement Miah implies that the land was taxed to its utmost capacity then his views coincide with those of Løkkegaard. Agmides considers faqat as a sum imposed on the taxpayer according to his financial capacity with due regard to those requirements which were necessary for him to continue to ply his trade.

Abū Yusuf and some other jurists made a distinction between taxes levied on sulh land and that on kharāji land. Moreover, Abū Yusuf states that the Imam could change the amount of levy

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1 Kister, The social and political implications of three traditions in the Kitāb al-Kharaj of Yāḥya ibn Ḍāmār, Arabica, p. 228.
2 Ibid., pp. 229-230.
4 Agmides, Muhammadon theories of finance, p. 407.
5 Abū Yusuf, op.cit., pp. 40, 100; Qudama, op.cit., fol. Ṭ4v, also Abū Yusuf, op.cit., pp. 100-102.
on the _sulḥ_ ('ālā gadr al-Tāga) land, but had no right to levy a
tax exceeding the paying capacity of the population concerned.¹

Frequently such land owners preferred to pay according to
_‘ālā gadr al-Tāga_ conditions rather than those of _‘ālā shayin_
musamman. Under the terms of gadr al-Tāga (peace treaty) the
affluence or otherwise of the tax payer would be the basis of
payment; consideration would be lenient and no hardship would
be imposed.

As the term _‘alā gadr al-Tāga_ is in itself a 'peace treaty',
conditions of payment of tribute based upon it would invariably
be more lenient than that imposed upon land won by conquest. The
estimated limits of capacity was the considered amount which the
taxpayer could be reasonably asked to pay without impairing his
own standard of living.

Different views are held by some Muslim scholars concerning
the treaty of the town of Ruha (Edessa). They dispute the acceptability
of paying standing tribute (_sulḥ_ ‘ālā shay’in musamman) rather than
that of Tāga. They point out that the people of Ruha rejected the
terms which they were offered because they were aware that their
possessions and capacity would suffer loss by a 'fixed payment'
then the amount they would have had to surrender under Tāga terms.
Others express the opinion that the people were uncertain about
the continuance of Muslim rule, and would thus prefer to pay a

¹ Ḫūdū Yūsuf, _op. cit._, pp. 100-2.
fixed sum. In all other instances of sulh, however, 'ala qadr al-tāq appears to have been accepted which reflects that this basis of payment was preferable to that of 'ala shat'in musamma.¹

The jizya (poll-tax) was that demanded from each individual under Muslim protection (Ahl al-Dhimmah). It is, however, beyond the scope of this thesis to detail the origin and development of this tax.²

Taxes in force relating to agricultural life during the 3rd century A.H. (9th A.D.) could be classified as follows:

a) Main taxes.
b) Additional taxes.
c) Extrinsic taxes.

**Main taxes**

These taxes were collected and forwarded to the central treasury of the Abbasid Caliphate. They continued, in addition to taxes on agricultural products, to be imposed on all those items which were legitimately taxable. This, of course, refers to taxes on goods for internal and external trade; on shops, markets, hotels, rents from residential buildings, mills and inherited properties. The indirect effects of some of these taxes influenced the prices charged for agricultural products and brought a small additional revenue to the treasury.

¹Baladhuri, Futuh, p.453; Tabari, Ikhtilaf, pp. 218-22; Abu Yusuf, op.cit., p.95; Abu 'Ubaid, op.cit., nos. 141-71.

²Djizya', C. Cahen.
The most effective taxes on agriculture were the *kharāj*, the *'ushr* and the *jizya*. This *jizya*, although it had no direct relation to agriculture in theory, in practice it was collected from non-Muslims in villages all over the Sawād area.¹ Thus the *jizya* affected non-Muslim peasants in the same manner as did all the other forms of tax.

The systematization of main taxes will be discussed in the following pages.

Share-cropping at the rate of 50⁰/₀ had been part of the *kharāj* taxation in the Sawād since the reign of the Caliph Mahdi. This method was devised by his brilliant vizier, Mu‘awīa ibn Yasār (d. 170 A.H./786 A.D.), who put it into practice on wheat, barley and other crops cultivated on *kharāj* land. In addition, he dealt with fruit trees separately.² It seems that this rule remained in practice until the end of the 2nd century A.H., although Abū Yusuf (d. 182 A.H./798 A.D.) advised the Caliph Ḥarūn al-Rashīd to change it.

Abū Yusuf suggested that the type of irrigation and the various kinds of agricultural products should be taken into consideration. He told the Caliph that the share would be 40⁰/₀ in the case of products irrigated by flowing water; 30⁰/₀ of

those artificially irrigated; 33\(^1/3\)\(^0\)/o of dates, grapes and
other fruits and 25\(^0\)/o of summer produce.\(^1\) It would seem, however,
that Abū Yusuf's suggestion was not followed at that time. Tabarî
said that the Caliph Harūn al-Rašīd applied the rate of \(1/2\)
(i.e. 50\(^0\)/o) and this rate was continued throughout his reign.\(^2\)

In 204 A.H./819 A.D., the Caliph Ma'mūn reduced the rate of
the kharāj in the Sawād to 2/5 (i.e. 40\(^0\)/o),\(^3\) but it is doubtful
whether the application of this new rate was carried out absolutely
as was intended. The Caliph Ma'mūn received many complaints from
farmers concerning this matter. One producer, for instance, com-
plained that the entire produce from all his land was insufficient
to cover the tax.\(^4\) The Caliph investigated his statement and
found that it was true. Another example shows that one farmer
was forced to pay yearly a large sum of money in tax as kharāj
on his agricultural land. This would, however, appear to be an
extortion by one of the officials.\(^5\)

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\(^1\) Abū Yusuf, op.cit., pp. 23-9.


\(^5\) Ibid., I, p.129.
During the reign of the Caliph Wathiq (227-232 A.H./842-847 A.D.) Ahmad ibn Hanbal, scholar and head of the Hanbali school, publicly complained that his taxes were unjust and condemned the whole Abbasid tax-collecting regime. Officially, however, the sources referred to the continuation of the Caliph Ma'mun's rate of 400%, although it seems to have been only theoretically imposed, particularly as various additional taxes were applied.

The 'ushr tax (i.e. the 10% rate) was the illicit tax imposed on the agricultural products of private land (such as milk, etc.) which belonged to individual Muslims. Most of the land in the Sawad surrounding Bagra was considered as 'ushri land because it had been reclaimed either by drainage, as in the area of Bajiha, or by washing the silt from it as in the Sibakh area of Bagra.

Baladhuri provides information concerning 'ushri land in the various areas of the Sawad where a huge reclamation movement was begun around Bagra. This began shortly after Iraq had been conquered and Baladhuri provides a lengthy list of grants "Istā'at" in this area. By most of the sources Kufa was considered to be kharaj land although Muqaddisi considers it as 'ushri.

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1 Ibn Rajab, *op.cit.*, fol. 34b.
2 Infra, p.
4 Baladhuri, *op.cit.*, p.413.
5 Ibid., pp. 414-420.
It would seem that the applied 'ushrī tax differed from the theoretical one. Taxes collected from 'ushrī land varied between 10\% and 25\% of the production, during the last quarter of the 2nd century A.H., according to al-Azdi in his book Tārīkh al-Nasul.\(^1\) It reached 50\% during the reigns of the Caliphs Wāthiq and Muṭawakkil, according to the Kitāb al-Istikhrāj fī aḥkām al-Kharāj of Ibn Rajab.\(^2\) After the reign of the Caliph Muṭawakkil, large pieces of land were granted to Chiefs of the Turkish guards in various parts of the Sawād and in other provinces. Such grants, however, were scheduled to pay 10\% tax, but it is doubtful whether any tax collector had the temerity to ask for taxes, much less to try to enforce the claim. On the other hand, many private lands were abandoned during the periods of the uprisings and revolts.\(^3\) This was perhaps due either to fear and instability, or perhaps to the ruinous cost of irrigation which was the result of wars. The boundaries between most kharāji and 'ushrī lands had been lost with the result that they became merged and were classed as kharāj land. Sabī mentioned that many cultivators complained to the vizier 'Alī b. 'Isā that they were taxed for three years at a fixed rate on units of measurement regardless of good or poor production.\(^4\)


\(^2\)Ibn Rajab, op.cit., fol. 34a.

\(^3\)Ṭabarī, Tārīḵ vol. III, pp. 1750-2040.

Miskawaïp explains how the agricultural life in Bagra fell to a low ebb.\(^1\) Naturally, if taxes were levied on the actual land and not on its production, the sum paid as tax (20 dirhams per jarib annually), was an unwarranted burden on land owners, especially during the times when nothing or at best very little, was able to be produced. He says that many landowners found that their production was so low that they were unable to pay the taxes imposed on them.\(^2\)

Although both Şabi and Miskawaïp were speaking of the commencing years of the fourth century A.H., their information reflects the situation which existed in the second half of the 3rd century concerning 'ushr tax.

The sadegha tax seems to have decreased. Qa'î Tanukhi tells us that only agricultural products and cattle were subject to this tax.\(^3\) The sadegha on other sources of income or wealth was paid, according to the conscience of the individual, on a voluntary basis.\(^4\)

Sadegha was collected by tax collectors together with other kinds of tax, such as kharaj, 'ushr, jizya, etc. Abû Yusuf requested the Caliph Harûn al-Rashîd to appoint special collectors

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\(^1\)Miskawaïp, op.cit., vol. II, p.128.

\(^2\)Ibid., vol. II, p.128.

\(^3\)Tanukhi, al-faraj ba'd al-shiddah, vol. II, p.106.

\(^4\)Abû Ya'la, op.cit., p.99; Mawardi, op.cit., p.109.
for *sadaqa* only, but it would seem that the request was not granted as the taxes continued to be collected in the same manner. Ahmad b. Yusuf, the chief tax collector during the reign of the Caliph Ma‘mun, was also responsible for *sadaqa* collection. There was, however, some sort of segregation made on the yield of *sadaqa* and an attempt was made to distribute it according to its original inception.

According to Muqaddisi, the yield of *kharāj* and *‘ushr* were combined in one total during the reign of the Caliph Mu‘taṣim, by his order. This appears to reflect that the two taxes were no longer required to be registered as separate totals. Qadāma excludes only the *sadaqa* from the Arabs in Basra from his accounts and, although he afterwards refers to it separately, he includes it in the final total of revenue. In his official budget for the Abbasid state for the year 306 A.H./918 A.D., the Vizier ‘Abī ibn ‘Īsa refers to *sadaqat* of the western lands of the Sawād (Sadaqat *araḍī* al-Maghrib). He mentions also "the various markets where sheep were to be sold" (aswāq al-ghānam) in Baghdad, Samarra, Wasit, Basra and Kūfa. ‘Īṣṭakhri later confirms the continuance

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of *sadaqa* taxation. All those references confirm the existence of *sadaqa* tax on cattle and agriculture and emphasise the responsibility of the *Diwan al-Kharaj* for its collection.

The *jizya* or *jawali* tax seems to have been collected, together with the *kharaj* in the Sawād, by tax-collectors in each district. It was collected from all male non-Muslims in the Sawād, probably on the same three levels suggested by the jurists. Qudama speaks of additional taxes relating to *jizya* payers. Tabari also refers to extra duties taken from *jizya* payors at the rate of 100/0 yearly on the estimated value of their residential buildings.

Qudama stated that the collection of *jizya* was at the beginning of each new Islamic Calendar year. Baghdad, however, seems to have been the only city in Iraq where separate figures were given by the sources concerning this tax. In all other places, *jizya* was collected and added to the *kharaj*. He provides information concerning the total *jizya* revenue collected from all Muslims in Baghdad at the beginning of the 3rd century. This, he states, was 200,000 *dirhams*. The amount dropped to 130,000 *dirhams*.

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1 Iṣṭakhrī, *op. cit.*, p.158.
3 Qudama, *op. cit.*, fol. 103a.
5 Qudama, *op. cit.*, fol. 104a.
in the second half of this century, according to Khurra§adadhbeh, and collection of the jizya tax from all non-Muslims, able and unable alike, amounted to 16,000 dinars (equivalent to about 240,000 dirhems) in the budget of ‘Ali ibn ‘Iṣā, for the year 306 A.H./918 A.D.

Additional taxes

Many and varied were the taxes created throughout the Sawād during the first two centuries of Islam. Such taxes covered the yield of every aspect of economic activity. In the next few pages an attempt will be made to clarify the taxing of agricultural produce in the Sawād during the 3rd century A.H.

One important factor is that the yield of the additional taxes was not only for the benefit of the Treasury. Most of them were, indeed, imposed by the collector to cover the payment of his assistants, guards and servants and an additional means of wealth for himself. In some instances there was an agreement between the central government and others, such as tax farmers, mutaqabbils and jahbadhs, to collect taxes. When this was the case, most of any additional collection went into the pockets of the collectors, his guards and assistants.

Abū Yusuf provides valuable information concerning the additional taxes which were drawn from the Sawād taxpayers during his time. He names many kinds of levy, such as:

1 Ibn Khurra§adadhbeh, al-Masālik, p.125.
The hadāya, rizq al-ʿamīl, ajir mudda, ihtifān, nuzlah humulat ḫaʾam as-Sultān, athmān al-sulh wah qarāṭīs, ujır al-fuyūj, ujır al-Kaʾyīlän, al-rāwaḥ wal sarf, ujır al-buʿyūt, and dorāhin al-nikāḥ.

Other sources mention yet other taxes, such as māl al-jahbadah, baqāya al-kharāj, al-ʿaīyn al-kusūt, al-takmīla, mal al-maraftīq, darahim, jund al-ʿistihthān, the ḥashrīya or ḍarībat al-mawārith.  

The hadāya (gifts) was usually given direct to the head of the state and this custom had originated in Persia. Money was collected from the peasants with which to buy gifts for the Persian king during the festivals of nawrūz and mihrijān. It is probable that this tax was collected in cash twice a year. The sources, however, give no indication of how much it was, or at what time of the year. They tell us that it was abolished by the Caliph Omar I.  

Saʿīd ibn al-ʿAṣ, the ʿamīl of the Caliph ʿUthmān in Kūfa restored the custom. It is probable that it remained in force during the reign of the Caliph ʿAlī ibn Abī Ṭalib, while during the reign of the Caliph Muʿawia I it rose to as much as 50 million dirhams. Prior to the abolition of this tax by Omar II, 

1Abū Yusuf, op.cit., p.62.
2Qudāma, op.cit., fols. 23b-24a; Ḫūzjānī, Kitāb al-hisāb (msc.), Chapter V, part I, fol. 203a.
3The nawrūz is the new year festival celebrated at the spring equinox, while the mihrijān was the festival of the autumn equinox.
the sum collected as hadāyā in Iraq was equivalent to the total of all the other taxes. This reflects the serious impact on the life of the peasant population. Abu Yusuf records that this tax was drawn from land cultivators in the Sawād prior to his time and the practice was probably continued throughout the 3rd century A.H. He opposed it and advised the Caliph Harūn al-Rashīd to abolish it, but without apparent effect.

In the 3rd century A.H., the sources speak in general terms of hadāyā forwarded to caliphs from governors of various eastern Abbasid provinces. Such gifts usually consisted of rare and valuable localcraftsmanship. On the occasion of a special celebration on the eve of nawrūz 282 A.H., Abshīhī says that the Caliph Mu'tamīd was presented with specially valuable gifts. From this it would seem that the tax was being levied at the end of the 3rd century A.H.

The 'ajīn tax covered the surveyors' salaries. Collective bargaining would take place between the surveyor and a representative of the peasants who cultivated the area, concerning

2 Abu Yusuf, op. cit., p.85.
3 Tabarī, Ta'rikh, III, p.1706; Thālibī, Thimār al-qulūb, pp. 427-8; Abshīhī, op. cit., II, p.57.
the salary which would be acceptable to him. This occurred, a rule, before cultivation was begun and took the form of a tax on averages which was collected and assessed on the actual area of the land cultivated. If his attendance was only required on one occasion, the assessment would be lower than if he were required to visit the area several times. If parts of land were allowed to lie fallow for a period in order to resuscitate it, more visits would be required in order to estimate an average than on the entire cultivated holding.

When a peasant handed a cash payment to the tax-collector, an additional tax, known as the rawāj was imposed on him for each 100 dirhems he paid this manner and varied according to the greed or otherwise of the collector.² The amount was bargained between collector and payer and varied according to the means of the latter. The sum collected was, however, devoted to the benefit of the collector and his assistants.

The rawāj was known under various names. Abu Yusuf calls it 'al-Sarf³ while Qudama names it kifāya and wiqāya.⁴ Šabī refers to it as the 'jahadadh's right (yaq al-Jahbadh').⁵

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¹Buzjani, op. cit., fol. 203a.
²Ibid., fol. 203b.
³Abū Yusuf, op. cit., p. 62.
⁴Qudama, op. cit., fols. 20b-21a.
⁵Šabī, op. cit., p. 255.
It would seem that the 'rawāj' was a precaution to provide against the use of counterfeit money, muṣuf or nabahraj,¹ or perhaps the clipping of money, although the use of parts of dirhams was acceptable at that time.²

It is obvious that the taxpayer suffered a great deal, perhaps because he paid the tax direct to the collector and certainly the final amount of these subsidiary taxes was left in the hands of the jahbadh. There was rivalry between many of the jahbadhs to win contracts for collecting taxes in certain areas; as their endeavours to obtain these privileges became more determined, their gifts to the government became larger and, of course, extortions from the peasants were heavier in order to repay themselves for what they had spent on obtaining the privilege, to say nothing of payment for those they employed and some for their own interest on it after the official amount had been covered. It is probable that taxes related to the jahbadh grew unjustifiably heavier year by year. No doubt this is to what Qudāma refers when he speaks of dīwan al-Jahbadha and states "wa tarāqā mal al-jahbadhati ila Jumlatin wafiratin asl aktharuha 'udwān".³

¹Jaḥiz, al-tabāṣṣur bi'l-tijārah, p.15; al-bukhāla', p.268.
²Maqrīzī, Ighāthat al-Ummah, p.68.
Yet another tax related to the rawāj was collected from peasants known as the 'rawāj al-rawāj'. Būzjānī defined it as a small sum taken for the payment of the employees of the tax-collector.¹ There was no standard rate for this tax and the amount varied according to the whim or opinion of the chief tax collector (i.e. the 'āmil al-kharāj, the jahbadh, the damīn or the mutaqabbil), and the terms he had made with his employees. Probably the rawāj al-rawāj is what Abū Yusuf refers to as 'ujūr al-fuṣūj (the salaries of the Fuṣūj), fuṣūj, according to him, being the local employee of the tax collector.

The sources say that ujūr al-ḅuyūt was one of the many taxes abolished by Omar II.³ It would seem, however, that this tax was similar to that referred to as nuzlah, which simply means that the food, etc., consumed by the tax collectors and their employees during the period of collection, was at the cost of the taxpayer. This certainly was an additional burden on those who, as Abū Yusuf comments, "could not and should not bear such a tax".⁴ If the taxpayer was unfortunate enough to

¹ Būzjānī, op. cit., fol. 203b. He mentions that it was known also as Ujra and ḫaq al-jahbadh.
² Abū Yusuf, op. cit., p.61.
³ Ibıd., p.86.
⁴ Ibıd., p.61.
be classed as a ḍḥimmī (non-Muslim) yet another tax related to the nuzla, known as the 'arzāq, was levied on him. The rate for this seems to have been a fixed one of 15 ᵃ‘ā of wheat in the Sawād.¹

The period allowed for the stay and maintenance of the unwelcome collector and his employees was, according to Qūdāma, limited to three days.² Tābarī states that enforced guests, even such as in the instance of the Caliph Mu‘ṭāqid (279–289/892–902) were not permitted to outstay their stipulated time. From him we learn that Mu‘ṭāqid was asked to leave by the villagers of “‘ān al-dhirba” at the end of his two-day visit, and even he had to agree to leave the next day.³

As if these impositions were not enough, the tax-collector had the right to compel the villagers to attend upon him to learn the extent of the taxation to be imposed upon them, and for this he had to pay an additional fee, ja‘l, to the messengers (fuyūl) of the tax-collector for delivering the message. This 'fee' often assumed farcical proportions, and there were occasions when the demand by the messenger exceeded the amount of the main tax itself. If this were the case, the messenger would take part

¹ The rate of this additional arzāq was different in each country. See Qūdāma, op. cit., fol. 103b.
² Ibd.
and sometimes all, of the capital of the village (if there were indeed any left to take) perhaps driving off a cow or a sheep or whatever he found to take by way of remuneration for his 'services'.

All these payments in addition to that of the salary of the *amil (rizq al-*amil) were drawn from the tax-payer and Abū Yusuf appears to have noticed the extreme unfairness of this method. He appealed to the Caliph Harūn al-Rashīd to change it by remunerating the collector direct from the treasury. There is no record, however, that his advice was put into practice. Even the soldiers who helped in collecting the tax (jund al-*istihthath) were indirectly paid by the tax-payer.

Upon cultivators, who paid their taxes in kind, it was not difficult to find a pretext for imposing additional levies. There were those known as "ujra mudda", "ujur al-kayalān" and "ziyādat al-sanja". 'Ujra mudda' comprised the cost of hiring the scales and weights; 'ujur al-kayalān', the salaries of those who measured and weighed the products, while the 'ziyādat al-sanja' appears to be the difference in weight or measurement

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1 Abū Yusuf, op. cit., p. 61.
2 Ibid., pp. 61-2, 115.
3 Ibid., p. 61; Qudāma, op. cit., fol. 96a.
4 Abū Yusuf, op. cit., p. 62.
between those crops left to dry as opposed to that of the freshly gathered produce. Abu Yusuf appears to be fully aware of the unfair load of taxes borne by the payers and insisted that the charges for the first two of these taxes - the yield of which was the prerogative of the state - should be borne by the government, and that the third tax should be completely eliminated. There is, however, no record to show either the acceptance or rejection of his advice.

There seems to have been no end to the number of ways in which the taxes were imposed. There were, in addition, the ihtifān, the nā'iba and the qisma, all of which were probably related to the portion of crops taken from peasants as 'perquisites' by the tax-collector's employees and their relatives who attended when the crops had been harvested and were ready for division. This custom, though to a modified extent, exists in Iraq at the present time.

The collective share of the produce of the treasury was stored temporarily in the villages until the final collection had been made and before its transfer to the kharāj storehouses (makḥazīn al-kharāj). Cultivators had to pay the rents of both temporary and permanent storehouses in the Sawād. The transportation costs for the treasury's share of the crops

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1 Qudāma, op.cit., fol. 93b.
2 Abu Yusuf, op.cit., p.62.
was also collected from the peasants. This cost was known as "Humulat ta’am al-Sultan".  

Nor did the costs of writing materials used during the transactions escape payment by the peasants. The sources refer to "'athmān al-suluf wal qarājīs" which was the value of these materials, registrations and receipts during collection and perhaps also for diwan al-kharaj.  

Before the use of paper became wide-spread, the best and most used material was papyrus al-qarājīs imported from Egypt. As the clerical work of taxation grew, there was increasing expenditure on material of this kind, especially in the diwan al-kharaj and large quantities were imported and stored against possible interception of trade for one reason or another. Papyri imported into Iraq was costly. 

For example, that used in diwan al-Sawād alone during the reign of the Caliph Mu'taḍid, was estimated at 7,000 dinārs monthly and the price of a single piece was one dirham. In times of shortage even more costly was the white leather which was used for writing purposes and documents, in addition to the cheaper material of the paper which was produced in Iraq and imported.

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1 Ibid.
2 Ibid., pp. 86, 109.
3 Ṣāḥī, al-Tabassur, p.30; Tha'alibī, Thīmār al-qlūb, p.431.
4 Ṣāḥī, art. 'daftar', B. Lewis.
5 Ṣāḥī, op. cit., p.37.
from Samarkand.  

Ibn al-Faqih refers to two kinds of writing paper produced in Baghdad, 'al-darish' and 'al-lakka'. The Caliph Mu'tasim, he tells us, tried to plant the papyri plants in his new capital "Samarrā" and his failure in this matter.  

The total value of all writing material used by tax-collectors and probably by diwan al-kharaj had to be drawn from tax-payments. The sources provide no evidence of the amount of this tax nor how it was collected. It is possible that the estimated value was shared proportionately between all tax-payers.  

There was also the cleaning of pollution (u.jur Kārī al-anhar) from the canals, and the repair and strengthening of banks and dams (al 'imāra) for which the tax-payer had to pay; and even marriage and death were not free from the interference of the tax-collector. There was the darahīn al-nikāh (marriage tax) to which Abū Yusuf refers, and which seems to have been collected from peasants in the Sawād during the Umayyad period. Omar II abolished it, but it is doubtful whether his order was carried out effectively. The sources neither clarify the amount

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1 Thālibi, Thimar, p.431.
2 Ibn al-Faqih, Buldān, p.253.
3 Abū Yusuf, op.cit., p.55; Qudāma, op.cit., fol. 90.
4 Abū Yusuf, op.cit., p.86. cf. 'Arūs Rasmī', El 2, s.v.
5 Ibid.
of the tax nor how it was based. Its name implies that it was taken on the occasion of a peasant's marriage. There appears to be a parallel to this in the feudal system in Europe during the Middle Ages, when there were many records made of cases when the great landowners refused the right of marriage to a small tenant. Also in the years preceding the French Revolution, peasants were required to pay a tax if they desired to marry.

When death came to a farmer his property was transferred to the custody of the central treasury, al-Sultān waliu man la waliya lahu yarithahu wa ya'qilu 'anhu, and was known as al-hashriya. When, in the second half of the 3rd century A.H., a new tax, darībat al-mawārith, was collected from the inheritor, a new diwān was established especially to deal with it. 1 Tabari states that this tax was abolished during the reign of the Caliph Mu'ṭāqid, while Ṣābi says that both the Caliphs, Mu'ṭāqid and Muktafi, abolished it. 2 It was, in actual fact, continued, as it is spoken of by Ibn al-Mu'tazz in one of his poems. 3

In 306 A.H./918 A.D., the vizier of the Caliph Muqtadir, Hamid ibn al-'Abbas, reaffirmed it officially. 4 The hashriya was,

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however, collected continuously in Iraq during the 3rd century A.H. According to Taifur, the total sum of the hashriya collected from the area of Basrah in one year, during the reign of the Caliph Ma'mun, was 300,000 dinars. The Qadis seem to have been the persons responsible for collecting this tax.

The kusur was yet another imposition, but the purpose of it is not clear.

Takmila was a tax imposed collectively upon an entire village or district. In the event of the absence or the death of one or more payers of this tax, the entire amount would be paid by the community who would share the additional burden of the absentees. The term kusur al-kharaj or inkasara al-kharaj were used by Azdi. He refers to it when the situation was less than usual for any particular reason. Zaidan suggested that the kusur represented the difference between the present and the ancient system of kharaj taxation, which remained in use during the period prior to the Abbasid caliphate. This was based on land measurement, "masabat al-Jurban", and the system which was based on share-tax, "mudassama". Some cultivators, he claims, preferred to pay according to the old system. If they

1 Taifur, op. cit., p. 222; Suli, al-'awraq, p. 104.
2 Ibid., p. 222; Suli, al-'awraq, p. 104.
were able to pay only part of the tax, the balance left would accumulate year by year in spite of the efforts made by the tax-collector to clear it. Zaidan, however, gives no source from which this suggestion was taken.¹

It would seem that the kusur was connected with the method of collection in the Sawad. If the peasants were unable to pay the standard amount required on the average of collection (awsat al-'ibar) any balance left in one year would be requisitioned in the next as a separate item and would not be added as part of that year’s tax. This would appear to be a direct contradiction of the statements by Abu Hanifa.²

The sources refer to "daribat al-mara’i" as that tax required from farmers using pasture land for their cattle.³ During the Umayyad period, such land was considered as common property. No information is, however, provided by the sources concerning its assessment or collection.

From ancient times and indeed, even in the present day, the first growths of wheat, barley, etc., were cut back in order to strengthen the plants. This practice not only made the yield more prolific, but it provided additional fodder for the cattle.

¹ Zaidan, op. cit., vol. II, p.121.
² Qudama, op. cit., fol. 94b.
³ Abu Yusuf, op. cit., pp. 30, 40; Sabî, Rasa’il, p.138. This additional tax seems to have been continued until the year 379/989, see Ibn al-’Athîr, op. cit., vol. IX, p.48; Miskawaih, op. cit., vol. II, pp. 71-2.
It may have been from this source of produce that this particular tax was drawn.

Beo-keepers among the villagers were taxed on the honey from their beehives — *darībat al-nabil* — to what extent is not known.\(^1\)

Regular fishermen were taxed upon their permitted fishing stretches, and this was called "*darībat al-masa'id*.\(^2\)

**Methods of Assessment and Collection**

The rate of taxation practised during the time of Omar I is usually recognised by the sources as the basis of taxation in Iraq. Omar I appointed two governors to assess the yield and the amounts of tax were based on their recommendations. These were based on the Persian *wazīfa*, which was a balance between share-tax (*muqāsama*) and a fixed revenue, *muqāta*. The Sassanians practised both *muqāsama* and *wazīfa* in Iraq, and preferred the latter as it was more practical and convenient.

'Uthmān ibn Ḫunaif and Ḫudaiif, the 'smils of the Caliph Omar I in the Sawad, assessed the Persian *wazīfa* with justice and equity. Before putting their assessment into practice, Omar I assured himself that their opinions were well-considered and within the scope of production. Both Governors were confident that they had calculated correctly and, indeed, cultivators

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\(^1\) *Abū Yusuf, op. cit., p. 40; Šabīb, Rasa'il, p. 137; Qudama, Khāralj, fol. 100a.

\(^2\) Qudama, *op. cit.*, fol. 138a. Qudama stated that 'arząg al-Umanā *ala bīf al-ẓhillāt* was another duty in the Sawad, fol. 90b.
had been consulted before submitting the final assessment and were actually able to meet the demands, even when the assessment doubled.¹ The Sawad was, in fact, the first and only province where the land was measured and surveyed and the details of taxable units were recorded.

The sources provide many varied pictures of the assessment approved and enforced by Omar I. No less than twenty variations occur, some of which agreed in part, but most differed in actual detail. (See App. p. 271).

It is beyond the scope of this thesis to present the detailed rates in existence during Omar I's reign. The difference in the views related to the assessment, may have been recorded erroneously or perhaps deliberately. Omar's practical assessment in the Sawad must have changed with the years, and perhaps not always practised with the equity and justice with which they were begun. The survey was made during the Umayyad period and perhaps the sources themselves were not allowed a clear picture of the beginnings and presented their information according to their own special conception.

If this were not so, then the years of Omar's reign must themselves have brought considerable changes; not only the methods of irrigation may have differed, but also the methods, perhaps, of transportation. Added to this, lands of equal size may have been near to or far from the final destination of their produce, or the

¹Abû Yusuf, op.cit., pp. 37-8, 84-5.
land lay nearer to an approved route such as by river or canal, while a similar sized piece of land lay across country with neither adequate road nor waterway. It may have been that differences of this kind were responsible for the differences given by the sources.

Balādhurī, in his Futūh al-buldān, takes a similar view when he discusses agricultural taxes during the reign of the Caliph 'Alī ibn Abī Ṭalib, as new measures were introduced by him. In both Omar I and 'Alī's bases of taxation, the tradition of Islam can be traced, although from different points of view.

Omar I, who lived in Medina, was not as conversant with the life and problems of agricultural people in Iraq as was the Caliph 'Alī, who, after having moved his capital to Kufa, tried to approach them in a more practical manner. Sources speak of 'Alī's common-sense measures to restore the balance of payments to a more just scale than those imposed on peasants hitherto; Balādhurī, for example, refers to the gradual changes made in taxes (al-tūsīq al-mukhtalīfā) which took into consideration the importance of land marketing and the distance of transportation of produce.

This more just and flexible manner of assessment was practised also in the Sawād during the Umayyad period, when lands were again

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measured by the Governor, Ziyād b. Abīh; and also during the reigns of the two first Abbasid Caliphs, which benefited the Treasury also. A complete survey necessary to such a change required tremendous effort and employed a vast number of people.

During the reign of the Caliph Mahdī (159-168/775-85) the assessment of wazīfa was replaced by the method of muqāsama. It was Muʾawiyah ibn ʿAbdullah b. Yasār, the brilliant author who was also the Vizier of the Caliph Mahdī, who reverted to the muqāsama method of assessment, which had been practised in a more simplified way by the Prophet in the case of Khaibar.

Mahdī's vizier, the author of the first Book of the Kharāj, created a uniform system of taxation. He refers in his book to the hardship suffered by the tax-payer when a fixed sum of money or a specified sum of money was imposed on each jarīb of land (i.e. masāha), which protected the Treasury against fluctuation in prices, but if it rose a little, whereby the tax-payer could receive benefit, perhaps the Imam would not allow him to do so. In addition to this injustice, if prices fell and the tax-payer suffered a loss, the Imam was not permitted to compensate him for that loss because this would have reduced the revenue thereby causing damage to the Government. Revenue was always needed for payment of the army "Uṭţiyāt al-jund" and the other expenditure of the state (Saʿir al-nafaqat).

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Mu‘awiya b. Yasar, therefore, proposed that it would be preferable to tax the people of Sawad according to the precedent of the Prophet in Khaibar. This was that the land was restored to its owner on condition that half of the crop was surrendered as "share-tax". Expenditure on irrigation should be taken into consideration thus: if a landowner watered his soil by means of a bucket, he would be liable for only one-third share of his produce. If irrigation was by the water-wheel method, then only one-quarter share should be claimed. When irrigation expenses had been met, then the farmer should be free from further expense until the harvest and removal of crops, when a proportional share of straw would be taken on account of the share-tax, or resold to him at an agreed price, if so desired. Mu‘awiya b. Yasar also advised that the assessment of the tax on vineyards and other trees, vegetables and crops in general should be carried out fairly. The net income, after deduction of expenses had been made, should be calculated as should the distance from market or port. The demand for tax should take into consideration all these and other costs, charges and expenditure. From the provisionally assessed net income, half of the share-tax (tasq al-‘astan) should be taken on account until the final assessment was able to be made. If it then appeared that the net income was liable for twice as much as had been taken into account, then the latter amount should be considered to be the full tax and collected. If, however, the net income was actually less, then the final full-share tax should
be proportionately reduced.¹

The advanced thinking of Mu’awiya’s mūqāsuma (assessment system) was accepted by the Caliph Mahdi and was officially put into practice.² Later, however, during the reign of the Caliph Harūn al-Rashīd, it would appear that the old taxation methods (the wadīfa) were still in practice in the Sawād. If this were not so there was no need for Abū Yusuf’s repeated advice to abolish the wadīfa in the Sawād or for him to advise the Caliph in favour of mūqāsuma.³ In addition, in his Tārikh al-Musul, Azdī mentions that Yahya, the Barracid, the Vizier of the Caliph Harūn al-Rashīd, used the method of wadīfa assessment by taxing according to the units of land measurement.⁴

The ta‘dīl or ta‘dīl al-kharāj can be defined as re-assessment of the agricultural taxes. It took into consideration the changes which had happened after previous assessment had been improved.

It may have happened that roads or waterways had been improved during the time between. The produce may have improved in quality and yield. Perhaps another market had opened on a route easier for transport, or even at a less distance from the place of cultivation. Justice decreed both for government and producer that a

¹Qudama, op.cit., fol. 101a.
²Ibid., fol. 101b.
further appraisal of values would be necessary. The sources, however, mention that the ta'dil occurred regularly once in every ten years in Egypt.

At the beginning of the Abbasid period, the Caliph Abu Ja'far al-Mansur appointed Hammad al-Turkî as supervisor of the ta'dil in the Sawad.¹ It seems, however, that this method continued during the reign of the Caliph Mahdi, but there is no information as to how long the period was between one ta'dil and the next, or whether it continued during the third century. It is probable that as this ta'dil was related to agriculture, the sources, unfortunately, are silent on this point - or at any rate do not consider it worth mentioning. Sometimes the abra is mentioned by them, relating to a certain year as, for example, in the case of Qudama, ibn Ja'far, when he provides a register for the year 204 A.H.² This seems to reflect that it was more likely that the ta'dil was continued in practice during the 3rd century, although it would seem that it was not applied throughout the whole Sawad at one time. This may be one of the reasons why the average of collection (i.e. abra) for various districts at different times was entered on one list of collection.³

¹Jahshiyari, op.cit., p.134.
²The figures corresponding to both kurat diils and nahr al-silah areas in Qudama's book were representative of the abra of the year 260/873, while all other figures were representative of the abra of the year 204/819. Qudama, Nubadi, pp. 236-7.
³Ibid.
Many ways of collecting taxes seem to have been used in Iraq during the 3rd century A.H. There were gabāla and damān, in addition to the ordinary methods employed by official collectors of the diwan al-Kharaj.

Another, but unusual method, was also adopted, though only during crises. At such times, official employees, especially military officers, were directed to collect their own salaries from cultivators in the Sawād as part of the cultivators' tax.

The gabāla was an undertaking by a local and notable mutaqabbil to pay the full tax quota of the entire local community or district.¹ This was assessed by the method of muqāta‘a and was adopted for the purpose of raising revenue rapidly for the convenience of the government.

Although Abū Yusuf recognised the method, he appealed to the Caliph Harūn al-Rashīd to abolish it both from the Sawād or from any other part of the state.² He realised that the mutaqabbil, more often than not, acted fully in his own interest. He wrote that "... they robbed the tax-payers by imposing on them that which they do not owe and punish them in a repulsive manner to secure their own profit."³ He accepted the method of gabāla in cases of necessity, but recommended control of the activity of the man

¹Lambton, 'Reflections on the 'Iqṭā‘', p.363.
²Abū Yusuf, op.cit., p.60.
³Ibid.
who accepted the post (i.e. the mutagabbil). The controller should be the Imām’s representative whose salary should be paid from the central treasury, and also that continuous supervision of the director of the barid of the district or province, should be given.¹ These remarks of Abū Yūsuf reflect the existence of the practice of assessment by muqata’a before the beginning of the 3rd century A.H. The higher officials of the Abbasid state knew well that the qašala method of collection held many disadvantages for the cultivator and the peasant, and even – in the long range – for the ultimate interest of the state and the entire economic life of its society. Taifur, for example, states that Tahir b. al-Ḥasan, the former military leader of the Caliph Maʿmūn and his ‘āmil in Egypt and Syria, also afterwards in Khūraṣān, refused to grant qašala to an applicant. He wrote an annotation that the qašala was corrupt and even if it were not so, the applicant himself was corrupt.² By this it would appear that his views on the matter coincided with those hold by Abū Yūsuf. When the inhabitants of a village had agreed on an amount to be paid to the government, they appointed a representative as mutawábbil. This office would only be accepted by him for the one particular occasion. The government would accept this mutagabbil

1Ibid., p.114.

² Taifur, op.cit., p.127.
providing his status in the village were sufficient to make him acceptable as a guarantor. ¹ When a fief-holder or head of a village agreed to pay a definite sum of money either to the central treasury or to the local authority, it would be on condition that no ṭanil or tax-collector would set foot on their lands. This arrangement, in fact, assured an acceptable payment of taxes and guaranteed land-owners against the extortions of a tax-collector or mutaqabbil.

The sources frequently refer to an assessment by the method of ṭanin. Such was the competition to secure the post of ṭanin (tax-farmer) that prior to any appointment being made an auction for the disposal of the post would be held, probably at the local administration centre. The auction would be attended by many men desirous of obtaining the post, each offering greater inducement than the other in order to acquire it. The one who offered the most was the fortunate candidate and he was appointed as ṭanin. A contract would be made between him and the government, and he would be authorised to make tax-collection on its behalf. The contract, which was usually in force for one lunar year, gave the tax-farmer great power. The method was practised during the reigns of earlier Abbasid Caliphs and gradually grew stronger. In the time of the Caliph Harūn al-Rashīd, tax-farming had become common practice.²

¹ Abu Yusuf, op. cit., p. 60.
² Lambton, op. cit., p. 365.
The **damān** is frequently mentioned by the sources and reflects the continuation of the practice during the 3rd century A.H. For example, the Qaḍī Tanūkhī mentioned that the Caliph Ma'mūn checked the fulfilment of the **damān**'s obligations. Both Ṭaifūr and Ibn al-Faqīḥ provide similar information. Such measures continued until the death of the Caliph Mutawallī when, in the second half of the 3rd century, a financial crisis faced the Abbasid government.²

The **damān** had to pay the full amount in advance, or sometimes part of it in the beginning of each month to allow the government to cover its expenditure. In one case the **damān** promised to provide the central government with daily payments to cover the urgent daily needs for expenditure. This happened in the case of the **damān** Ahmad al-Ṭaʿī who had won a contract for tax-farming of a part of the Sawād, when a financial crisis faced the Abbasid government. This occurred in the early days of the reign of the Caliph Muʿtādīd.³

Towards the end of the 3rd century, high officials began to find that the post of **damān** was profitable. They took advantage of their position to combine it with the collection by **damān** thus acquiring

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¹Tanūkhī, Mustalāḥ, p.156.


considerably greater power. If the official were, himself, the vizier with the additional right to collect tax as *dāmin*, his ability to extort from the tax-payer would be unlimited. He could place an embargo on imported produce, thereby compelling the local population to repurchase their own produce from him at an impossible price.

For example, ʿAlī ibn al-ʿAbbās, the vizier of the Caliph Muqtadīr (295-321/907-939 A.D.) who also acquired the power of tax-farmer (*dāmin*) for the taxes in the Sawād, Ahwaz and Isfahān and paid an instalment of his *dāman* to the treasury from his own resources. He not only extorted the second payment from the taxpayers in addition to the first, but added an enormous sum which he considered to be "proper" for his own profit. He allowed no wheat or barley to be imported into Iraq from other provinces and, as a consequence, prices of foods soared beyond the reach of working people. With commodities at high rates it became impossible to live or to buy the necessities of life. Thieving and famine were the natural outcome, and revolt by the peasants followed. When military revolt was added to the general confusion, the position was reported to the Caliph. He cancelled the *dāman* contract and the Vizier was dismissed.¹

Another method of tax collecting is mentioned by the sources as having been practised in the Sawād, as has already been stated,

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during the unstable period following the murder of the Caliph Mutawakkil. The treasury at that time had become very low. The officers of the Turkish guards had reimbursed themselves from the revenue which arrived in the capital, but there was no money left to pay the rank and file of the army. The soldiers were given permission to take the money due to them from the peasants of the Sawad. This was disastrous, as a far greater amount than the salaries due to them was extorted from the peasants. The soldiers imposed themselves on the people, remaining as unwanted guests for a considerable time. This period caused considerable alarm among the inhabitants who had become virtually the servants of the soldiers, and were ordered by them to perform menial tasks in their own homes.

At about this time the Zang revolt occurred and the military power was forced to unite in order to face it. No repairs to waterways, to broken banks or roads had been made. Fear and extreme poverty caused the villagers to abandon the land and flee to the cities or military centres; and so this method of tax collection by soldiers came to an end.

This period of tax-collection for their own ends should not be confused with that when soldiers were employed to help in tax collection.

\[1\] Ya'qubi, Ta’rikh, II, p.606; Ibn Tabataba, op.cit., p.242; Miskawaih, Tajarib, vol. V, p.265, for example.

\[2\] Tabari, Ta’rikh, XI, 203-4.
The direct method of collection in the Sawād was by means of the central ḍīwān al-kharāj, which also had its branches in the districts. In the early days of the Abbasid regime this way of collection was used and was similar to, and indeed a continuation of, the previous method. Later the methods of daman and gabala were used, but the actual supervision of the whole operation was by ḍīwān al-kharāj.

The ‘amīl of the kharāj was responsible for the supervision of the collection in a province. He usually had a considerable number of official employees to help him in his work. In the Sawād in particular, the post of ‘amīl al-kharāj assumed special importance and the viziers and even the caliphs took special care of that. They sometimes intervened in its problems in person, as well as in the administration of ḍīwān al-kharāj in order to maintain a certain standard of efficiency.¹

The ‘amīl of the kharāj depended on his assistant and employees, and especially on the village chief - the dihān - for his local knowledge. The dihān’s main function was to collect the taxes, a task which, because of this knowledge he was enabled to do more efficiently.² Tabarī says that preference for the employment of the dihān was because of their understanding of the country and people.³ He quotes Ubaidullāh ibn Ziyād as describing their usefulness not only because of their experience in this respect, but

1 Azdā, op.cit., II, pp. 215-6; Aghānī, X, p. 58; Tabatabā, op.cit., p.198; Tanūkhi, Musta‘ād, p.251; Dimashqī, al-‘ishārā h ila māhbasīn al-tijārah, p.84.

2 Lambton, op.cit., p.359.

3 Tabari, Tarikh, VII, p.29.
as a matter of diplomacy and that greater control could be exerted over them. Ibn Ziyād felt that they were more loyal and less aggressive than the Arabs.\(^1\) This information clarifies the advantages and perhaps the more subtle policy of appointing the dhīqāns who were of Persian origin, in assisting the collection from each village. There is no doubt that Persian knowledge and experience was exploited, and that their great understanding of the many branches of cultivated produce and its collection was most valuable. This diplomatic move helped to prevent many mistakes of ignorance on the part of Arabs and the consequent misunderstanding which may have perhaps resulted in clashes with the peasants, through lack of experience in such matters. Moreover, the Arabs found themselves with more leisure which enabled them to concentrate on military efforts during Umayyad times, and on politics during the Abbasid period. If any cases of dissension arose among the cultivators and peasants against the collectors, the culprits would appear merely as supervisors and controllers and the supporters of the peasants against oppression. This was, in fact, why there was no revolt against the Arabs until the second half of the 3rd century, when they became less diplomatic and began to establish greater wealth and vaster lands for themselves, and foolishly discarded the dhīqāns. This showed them in another light and roused the anger of the population against them, particularly on the western side of the Sawād and in the area around Bağra.\(^2\)

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1 Ibid.

In those cases where the cultivated lands needed measuring for the purposes of tax-collecting, as in the case of the *wadifa* method of assessment, the strengthening of dams, banks and maintenance of weirs; or in the cases of argument between different cultivators about the proportion of irrigation used, the local officials sought the help of the central *Diwan al-Kharaj*. A specialist was usually instructed to investigate the case, to settle the dispute and was empowered to make any necessary decisions.

The central *Diwan al-Kharaj* in the capital, which administered tax revenue, appears to have remained stable from Mā'ūn's reign until the year 289 A.H./901 A.D., when the Caliph Mu'tadid re-organised it. During the first part of the 3rd century A.H., *Diwan al-Kharaj* consisted of eight departments (*majlis*), three of which were for the purposes of correspondence. Majlis al-*hisāb* was established for the purpose of counting the revenue and checking it with other sections of state administration. Majlis al-Jahbadha dealt with tax collection matters. The responsibility for its efficiency was given to the appointed head of the section known as Jahbadha. He was expected to supervise the collection of the

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kharāj and other taxes from each of the provinces. The majlis was also responsible for assuring the correct collection of revenue and checking its arrival at the central treasury.

Majlis al-Jaīsh supervised the correct allocation of the revenue to the diwan al-Jaīsh (military section).

Majlis al-tafsīl was responsible for checking details of each type of revenue arriving at the diwan al-kharāj and for comparing them with the official average of the assessment ‘abra’, and also for the supervision of the specialists employed for various purposes.

Majlis al-asl administered and controlled another department of the Diwan. This incorporated the registration of all kharāj lands and their estimated revenues in addition to the registration of all common land throughout the entire state.

During the Caliph Mu'tadad's reign (279-289 A.H.), his Vizier 'Ali ibn al-Furat re-organised the diwan al-kharāj. This was presumably an attempt to simplify the task of supervising the numerous diwan that dealt with financial affairs. He established the diwan al-dar which, in addition to its clerical departments, was divided into two main sections:

1 Qummi, Tā'rikh-ı Qun, pp. 149-151.
2 Qudama, op.cit., fol. 2a-7a.
3 Ibid.
5 The vizier was Ubaidullah ibn Sulaiman ibn Wahab, but the power was with his deputy 'Ali ibn al-Furat.
i) Majlis ṭutīḥa ma āʾal al-māshriq (the office responsible for lands conquered in the East;)

ii) Majlis ṭutīḥa ma āʾal al-Maghrib (office for lands conquered in the West.)

This reform, however, did not last for any length of time.

The succeeding vizier, Abu Muhammad 'Ubaydallah ibn Sulaiman (d. 288 A.H.) did not agree with the method and later the diwan al-kharāj seems to have returned to its early Abbasid form. This consisted of three divisions:

i) Diwan al-mashriq (East)

ii) Diwan al-Maghrib (West)

iii) Diwan al-Sawad (Iraq)

The Diwan al-Sawad was entirely responsible for all forms of upkeep and revenue of the Sawad land.

Tabari states that members of the Banu Ḥudayfah family were the first to be employed in this Diwan. Šabi says that the total cost of the paper used in diwan al-Sawad was about 7,000 dinars monthly. This, of course, reflects its importance.

1Jahshiyyarī, op.cit., p.281.
4Šabi, Muṣara', p.37.
Beside the Diwan al-Kharaj and its branches, Tabari mentions "Diwan Zimān al-Kharaj" or "al-Zimān" which was responsible for the control of the financial matters of "Diwan al-Kharaj". This diwan was created during the Caliph Mahdi's reign and was developed after his death during the third century.

The number of those employed in the Diwan al-Kharaj would, no doubt, increase when there was a period of political peace as it would decrease during times of war and revolt. The prosperity or otherwise of a province was also governed by these conditions.

Several kinds of employee were necessary either in the central office of Diwan al-Kharaj or in various district offices. The 'amīl, or 'amīl al-kharaj or, as he was sometimes known, 'amīl al-kharaj wa-liyya' was the principal tax-collector of the province. The sources refer to several posts which appear to have been part of the staff of the tax office in the districts of the Sawād.

Perhaps, at this juncture, it would be useful to endeavour to establish a picture of the method of collection and of the service provided by Diwan al-kharaj during the 3rd century A.H.

The head of the District Diwan would be the 'amīl. He would direct administration there by order of the Vizier, and send his

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2. Tabari, Ta'rikh, III, pp. 498-520.
account to the Central Divān. He was known as the ʿĀmil al-kharāj, or sometimes as ʿĀmil al-kharāj wal dīwān.

The head of Majlis al-Jahbadhā, as already stated, was called the Jahbadh. Various definitions have been given of the Jahbadh both by classic and modern writers, according to the elastic character of the post. It must be clearly understood that the post of Jahbadh had expanded and later became as that of an official occupying a high post in dīwān al-kharāj together with the office of tax-farmer. He was then issued with a contract to collect the taxes from a certain area. The responsibility of the position increased towards the end of the 3rd century A.H. At that time the Central Government faced a financial crisis. The Vizier, ʿAlī b. ʿĪsa, borrowed each month over a period, a sum of 150,000 dirhams from two famous Jewish merchants. The condition of the loan was that this sum should be paid each month as the Ahwāz revenues were collected and sent direct to them. From that time, the sources refer to them as the two Jahbadhs or al-Jahbadhān. Thus the post, originally created for tax collection only, finally included the holders as bankers.

The sources also mention the deputy of the Jahbadh, wakīl al-Jahbadhā and his employees, ghilīmān al-Jahbadhā. There is no evidence in the sources with which to clarify the duties of

2 Jahshīyārī, op. cit., pp. 220-1; ʿṢābī, Muzāraʾ, p.277;
this level of staff. Their number varied according to the Jahbadh's requirements. They were probably either observers on his behalf, to watch his interests, or, and this perhaps was the more likely, they were appointed by him as temporary collectors or agents, and - as Qudāma mentions - were allowed to appropriate taxes for their own benefit no less than collect them on behalf of the Jahbadh. Incredible as it may seem, even a Jahbadh had been known to sell the right of collection to the highest bidder.

The sources speak also about other work which appears to have been part of tax-office duties. There seem to have been travelling tax-collectors known as muhassilūn. The mustakhrijūn or asḥāb al-'istikhrūj and their assistants, aʿwanahum frequently spied upon those who professed to be unable to pay and used pressure to enforce them to do so. Abu Yūsuf refers to the fuyūj as companions of the collectors. It may be that they were guidos who know the exact boundaries of the lands in their own areas. There is, however, no modern equivalent for the term and no clarification of it from classical sources.

1 Qudāma, op.cit., fol. 20b; Azdī, op.cit., II, p.187.
2 Qudāma, op.cit., fol. 20b.
There were the jund al-istihthāth to whom Ṣābī refers as "al-jund al-tis‘īnīya". They were soldiers responsible to the ṣmil and carried out his orders. They received their salaries every three months (i.e. four times a year) which were, of course, collected from the cultivators and peasants, and paid direct from the diwan al-kharaj. Abū Yūsuf, however, objected to them being paid four times yearly and stated that monthly payments should be made to them from their own diwan (i.e. diwan al-Jaš). Perhaps the reason for this suggestion was that because of infrequent payment, abuse of the privilege of collection would become prevalent.

There were seasonal workers employed at times when taxes in kind were collected. These were paid according to their hours of work. If they acted as porters carrying wheat or grain on their shoulders, they were classed as hammalin; if they used pack animals, they were known as makariya; if by water transport they were designated mallahūn. Specialists in the division of yield and who divided it between the cultivators and the treasury's representative, were the mugassimūn or kaïyalūn.

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1 Ṣābī, Muzara‘, pp. 18-9.

2 Abū Yūsuf, op. cit.: p. 61.

3 Ṣābī, Muzara‘, pp. 15-17.


5 Abū Yūsuf, op. cit., p. 62.
Tho khuzzān were those responsible for storage of the share of the treasury when tax was paid in kind. They gave the receipts (bara‘a) to those who brought the produce. It was necessary for the khāzin to keep an accurate account; and a strict balance sheet of all debit and credit would be faithfully kept. It would be set out in three columns:

Stocks received  Stocks outgoing  Balance between columns

the figure in the third column should represent that balance left in the store. According to the information contained in the books of Qudāma, Ibn Khurradadhbeh and Ǧabī, it can be said that there were 42 kharāj stores in Iraq during the 3rd century A.H., in addition to those in Baghdaḍ, Samarra, Baṣra Kūfa, Wasit and Ambar.

It is little wonder that the burden of the taxpayers was almost unendurable when such an army of workers was sent whenever such work had to be carried out. All of them were paid by diwān al-kharāj and all the payments were collected from cultivators and peasants.

When taxes reached the stage of being collected for a year or more in advance, agriculture suffered the greatest detriment. It was practised for a time in the Sawād province during a financial

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1Ibid., p.86.
2Khawārizmi, Mafāṭīḥ al-‘ulūm, pp. 55-6.
3Ibid., p.55.
crisis of the central treasury, and sometimes it was practised by high officials (i.e. ṣarīls) in other provinces. Ṭabarī mentions several occasions, one of which was when Rāfi' ibn Harthama, the ṣarīl of Khurasan province, collected kharaj tax in 269 A.H./882 A.D. for more than ten years in advance, while the impoverished owners were unable to cultivate their land because all their capital had been taken from them.1

In the year 279 A.H./892 A.D., during one period of financial crisis, the Vizier al-Qasim b. Ubaidillah b. Sulaymān, collected kharaj tax for more than two years in advance. 2 Jahshiyari speaks of the heavy tax which sometimes exceeded the value of the whole of the production and caused the cultivator to seek the protection of a higher official talji'a from the unjust dealing, and perhaps even more unjustifiable brutality, of a tax-collector.3 This, it was said, sometimes even amounted to torture. Many times the condition of poverty of the cultivators and peasants was such that the Caliph or Vizier would be forced to advise tax-collectors to show justice and mercy to the payers.4

This reflects that the central government were not unaware that often tax-payers were taxed far in excess of the official rate. Abu Yusuf refers openly to the injustice used towards tax-payers in the Sawād, and this appears to be the reason why

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1 Ṭabarī, Ta'rīkh, III, pp. 1738-9, 2039.
3 Jahshiyari, op. cit., p.118; Qudāna, Nubadā, pp. 240-1; ibn al-Fāqīh,
the Caliph Harûn al-Rashîd requested him to write his book. 1
In it he opposed the practice of qabâla not only in the Sawâd,
but in every part of the state; he realised that tax-farmers
acted unlawfully for their own benefit. He stated that "they rob
the taxpayer by imposing on them taxes they do not owe and
punish them in repulsive ways to secure their own profit". 2
The sources described the manner of punishment meted out to tax-
payers if they refused to pay whatever sums tax-collectors imposed.
Jahshiyârî refers to many severe punishments, threats of being
thrown to lions, wasps, and other ways of exerting pressure. 3
Abû Yûsuf says, in this context, that they beat them cruelly, made
the tax-payer stand in the blazing sun, on one foot, for a
considerable time. Heavy stones or water-buckets would often
be hung from the neck of a defaulter; they would be tied with
ropes and left without food for a long time. 4

It would seem that such punishment and torture continued,
perhaps with even greater brutality, for a long time after Abû
Yûsuf. In 233 A.H./847 A.D. Muhammad ibn 'Abdul Malîk al-Zayîyat,

Balbûn, pp. 282-4; Khawûrizmî, op.cit., p.62; Ištakhrî, op.cit.,
p.158; ibn Hawqal, op.cit., p.303.
4 Qâbi, Wazara', p.369; Mas'ûdi, Murûj, IV, p.12; Khaṭîb al-

1 Abû Yûsuf, op.cit., p.2; supra, p. 207, fn. 2.
2 Ibid., p.60.
3 Jahshiyârî, op.cit., pp. 142-3.
4 Abû Yûsuf, op.cit., p.60.
Vizier of the Caliph Mutawakkil, invented an even more cruel method of extortion for evaders of tax payment. He created a furnace of iron which had protruding nails inside it.\(^1\) This undoubtedly points to the continued use of severe punishment if payment were not forthcoming.

The rate of 2/5 (40\(^\circ\)/o) which was applied by the Caliph Maʿmun was practised when taxes were collected in kind. Perhaps it is worthwhile here to mention that those figures spoken of by most sources merely as "wheat and barley" are actually inclusive terms and also cover various kindred productions which were listed under either of these products. The purpose of this, according to Buzjānī, was to simplify the clerical work of the collector and to minimize the number of list-headings, and also the assessment of payment.\(^2\) The kindred produce under each heading coincided in price. Buzjānī, however, gave four headings for most of the agricultural produce of the Sawād which were: Sesame, Wheat, Barley and the mixed produce classed as "Juhjunden." Listed with wheat were chick-peas, kidney-beans, lentils, flaxseed, fenugreek, oats, dried grapes, sumach almonds, hazel nuts, "shahdanaj", kumar seeds and the "Hartun". Under the heading of barley were rice, Guinea corn, garden cress seeds, dried broad-beans. "Sesame" included mustard seed, coriander seed, caraway seed, herbs, hashish and seeds for cattle foods.\(^3\)

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\(^{1}\)Tabari, Tārīkh III, p.1374; al-Khaṭīb al-Baghdādī, p.343.

\(^{2}\)Buzjānī, Kāfi, fol. 203b.
The Juhjandam, however, was a mixture of half wheat and half barley.\(^1\)

It would seem that many kinds of produce of the Sawad were not mentioned in these categories although they were liable for tax, according to Buzjanî. The information given in his four categories, however, concerns only his own time. The origins of this method of classification date from earlier periods.\(^2\)

The principle is visible from the beginning of Islamic government in the Sawad, though considerable changes doubtless occurred with time both in the prices and importance of some products.

In the Sawād, as in many other places, harvesting of different kinds of produce was spread over the year according to its kind. Harvesting of wheat and barley would be made in April, May and June as it became ready. That of winter cereals in June and July; cotton picking, which lasted for five months, commenced in August; sorghum and sesame were harvested in September and October; rice was harvested in November, the dates in autumn, while summer yielded its grapes and various kinds of fruit.

It is incredible that taxes, as a whole, were collected before calculating the value of the produce. It would, however, be dangerous to delay collection of the taxes for any length of time after the produce had been harvested. It is reasonable, however, to suppose that the tax-collection in the Sawād during

\(^1\)Ibid.

\(^2\)The "ritāb" and grapes were probably more important during the reign of Omar I than sesame.
the third century A.H. was extended over the year, and there are instances provided by contemporary sources which support this theory.

This points to the probability that the 'nawrūz', a term previously used by the Persians, was the commencement of the tax year and that 'iftīḥāb al-kharāj' was merely the official announcement that collection of taxes had begun with the new year.\(^1\)

As has been stated, taxes were paid either in kind or in cash. It is probable that the share of the state from the fields producing wheat or barley, rice, millet, etc., from individual districts, was collected inkind at the time of harvest. For other taxes which were paid in cash, various terms were used; there were the "tubāl", "tubul al-Sultān", "nujum", "anjum", "munajjama", "aqšā", - all of which embrace the meaning of "payment by instalments".\(^2\)

"Tubul" or "tubul al-Sultān" was used in Egypt during the last quarter of the second century A.H.\(^3\) Karabacak, however, proves that this term was of Greek origin. It was used in the Arabic papyri in the sense of "records of Kharāj".\(^4\) Grohmann states that

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\(^1\)Tabari, Tāʾrīkh, III, p.2143; Azdī, op.cit., II, p.311; Khawārizmī, Mafāṭīḥ, p.50.

\(^2\)Grohman, APEL, II, no. 44, pp. 27-9, no. 78, pp. 33-6, no. 83, pp. 49-50.

\(^3\)Ibid., No. 4, p.27, for example, dated 6 Ramaḍān 138 (5th November 794).

the "tubāl" was used throughout the papyri collection (APEL, and PSR) to mean 'instalments'.

"Nujūm or "anjum" or "munajima" were terms widely used throughout the Abbasid empire and even in Egypt, together with "tubāl" to mean the period when the instalment is related to the manner of tax-paying according to the "kharāji year", this view is supported by the document published in PERE. In Iraq, the term "aqāt" together with the term "nujūm" means that the tax was collected in instalments.

Various factors seem to have combined to affect the quantity of revenue when it was finally handed to the treasury. The difference would appear to be far greater than the natural deterioration in weight by drying the produce after it was harvested, "nāqīsāt at-ta'em".

A very prominent factor was the personal greed of many collectors who unlawfully not only imposed extra tax for the payment of themselves and their assistants but drew a great deal more of the money or produce collected as actual tax and added it to their own perquisites.

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1 Grohman, APEL, II, 37; PSR, no. 428.
2 PERE, no. 626, line 10, no. 639, line 7; PERE, no. 612.
4 Abu Yusuf, op.cit., p.62.
The principles of the taxation of land and goods originally was based on the religious ideals of Islam, but the only part of the principles of taxation remaining, which could have had a foundation in religion, was the prerogative of the Imam to lessen or extend the amount of collection. Even this, though described by Levy as a continuation of the original principles, was actually derived from a Sassanian origin. ¹

Nearly all the Abbasid caliphs during the 3rd century A.H. required their rights in this respect. The sources, from time to time, speak of the transfer of land from the "heavy tax category" "al-rūsūm al-thāqīla" to one of a lighter assessment "al-rūsūm al-khafīfa". Such a transfer would be made for the benefit of a special person or may have been lessened for the benefit of a district where the land had become overworked or impoverished and needed rest and fertilisation. Large areas were transferred from kharāj-land and became either 'ushri land or even were made tax-free. ²

The vizier was also able to cancel the heavy taxes and, by virtue of his office, to charge at a lesser rate. The orders to do this whether given by the caliph or by the vizier had to be registered and noted in the central diwān of Kharāj in the capital.

¹Levy, The social, p.311.
A copy of the order would then be despatched for the information of the relative local diwan of kharaj.¹

In the Abbasid period certain terms such as "'Igtarāl", "taswīgh", "ḥetīta", "ṭarīka" and "tu'ma" were used to specify various forms of tax reduction on land.²

The "'Igtarāl", according to Lisān al-‘Arab dictionary, is a tax-free grant of land by the ruler to the person.³ A similar definition was given by Ṣabī in an old glossary of Kitāb al-wuzara.⁴ According to this, the 'Igtarāl was a very privileged grant. Qudama, however, states that this practice was not even known by the Persians during their era of government in the Sawad.⁵

The sources refer to the "'Igtar Yaqtin". The commencement of the Abbasid state in the Sawad was the first time it was put into practice; thus, even at that time it would seem that the term was known. Both Qudama and Khawārizmī, however, give another definition which ultimately means the same thing.⁷ Qudama defines it as "protection of the day'a"⁸ while Khawārizmī gives it a

²Ṣabī, art 'Diwan', s.v.
³Ibn Manṣūr, Lisān al-‘arab, VII, p. 150.
⁴Ṣabī, Wuzara', p. 42.
⁵Qudama, Nubadh, p. 241.
⁶Ibid.
⁷Khawārizmī, p. 60.
⁸Qudama, Nubadh, p. 241.
general meaning. He says that the "'ighar" is "the protection".¹ All these definitions seem to point to the fact that in one way or another - tax-collectors were barred from certain lands which were entered in the registors of Diwan al-Kharaj, after their boundaries had been set by the diwan al-dar.²

The "ihtimal" refers to a tax-payer who has been exempted from payment for a certain period. Isfahani, for instance, mentions that Hanun al-Rashid himself ordered exemption of the kharaj tax on a land belonging to a monastery for a period of seven years.³

It seems that the practice of "ihtimal" was similar to that of the "taswigh", the difference between them being that, while the "ihtimal" was exemption from all taxes for a limited time, the "taswigh" was a percentage of the tax imposed on the land of the cultivator for the duration of his life.⁴ The "taswigh" also had another meaning, according to al-Khājīb al-Baghdādī. When the Caliph Maʻrūn granted the entire revenue from the kharaj of Egypt to Abdullah b. Tāhir, he termed it "taswigh."⁵

In Kitāb al-Aghānī the author speaks of the "taswigh" in the same

¹Khawārizmī, p. 60.
²Qudāma, op. cit., fol. 18a.
³Isfahānī, al-Aghānī, V, p. 419.
⁵Khāṭīb al-Baghdādī, op. cit., vol. IX, p. 484.
terms, but adds that it was not only the revenue of the Egyptian kharāj, but additionally from his own lands.\textsuperscript{1} The term "taswīgh" however, does not only apply to this special incident quoted concerning the caliph. Sources speak of it when the "amīl of Egypt granted the kharāj revenue of Syria for three years to one of his assistants.\textsuperscript{2}

In some cases the "taswīgh" was an act of grace by the caliph when he overlooked the right of the Treasury in favour of a special governor. We are told that the Caliph Ma'mūn, after dismissing Quṭbūba b. al-Ḥasan, his "amīl for the Nībal province and imprisoning him for refusing to pay the Treasury the revenue which had been collected, ordered his release and allowed him to use the revenue for his own purposes. This also was referred to as "taswīgh".\textsuperscript{3}

The terms "ḥatīta" and "tārīka" were given the same definitions as "taswīgh".\textsuperscript{*} In Kitāb al-Aghānī the term "ḥatīta" was used also to mean "price reduction".\textsuperscript{4} Other sources refer to the Caliph Ma'mūn's action in reducing the amount of kharāj in two

\textsuperscript{1} Aḥānī, vol. XII, pp. 101-4.
\textsuperscript{2} Ibd., XII, p.106.
\textsuperscript{3} Taifūr, op.cit., p.99.
\textsuperscript{4} Aḥānī, V, pp. 164-5.
\textsuperscript{*} See Khawarizmi, op. cit., p.60
\textsuperscript{**} Bosworth, op.cit., p.134.
districts in Persia as "hadīta". All these five terms have the general meaning either of complete rebate of revenue or partial reduction by the Treasury of the amount due. Sanction for this would be the right of the Caliph who, if he himself had agreed to any of these conditions, would notify the section responsible, the diwan al-kharāj.

Two more factors which tended to lessen revenue collection were the "tuma" and the "talij'a". "Tuma" was that land granted to a person or persons for their life-time only. By this means they could avoid the 50% kharāj rate and enjoy an appreciable reduction which required from them only 10%, as the land was classed as "private ownership" (mulk).

When a landowner found himself over-burdened by current taxation, in addition to the extra heavy expenses imposed on him by the tax-collector, he would sometimes seek protection from a higher official. In such a case he would beg the acceptance by such a person, of the reputed ownership of the land and would ask that it be considered "talij'a" property. Under these conditions it would be taxed 10%, or even less, according to special arrangement with the official (protector) concerned.

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1 Tabarî, Ta'rikh, III, p.1030; Azdî, op.cit., II, 271.

2 Qudâma, op.cit., fol. 17b.

3 Khawārizmî, op.cit., p.60.

In both the practice of "tu'ma" and "talji'a" the coffers of the Treasury would be considerably lowered, particularly when such practice became extensive. Taifur mentions in this context another definition of the "tu'ma". He states that the Caliph Ma'mun granted half the total of the "sadqa'at" of Basra for seven years to Ahmad b. Yusuf. In each case the sources mention that the reduction was for a limited time only.

A further cause of the lowness of Treasury funds was the emigration of farmers and land-workers to the cities. Not only oppression, violence and even torture were used to extract revenue, but taxes were too frequently collected for a year in advance. As a result, production decreased and land lay barren and uncultivated. This obviously depleted the Central Treasury, and was the result of the short-sighted policy in the tax-collecting system. Abu Yusuf requested the Caliph to prevent any further reductions by the "emils from the kharaj" tax. This indicates the frequency of such actions to the detriment of the state coffers.

With so much power in the hands of individual collectors, a great deal would depend on the character and wisdom of individual "emils. The reaction of the local people to his personality would

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1 Taifur, op.cit., p.235.  
2 Tabari, Ta'rikh, III, pp. 1738-9, 2039; Ibn al-'Athir, op.cit., VI, p.62.  
3 Abu Yusuf, op.cit., p.49.
be an important factor. Thus, a wise collector would take into account the fact that effort and will to improve the yield was very necessary to prevent dearth of revenue both for himself and the Treasury. In the case of the greedy collectors, they would first benefit themselves and the Treasury might have the residue, if any.

The sources clearly affirm that those املاس and امیرs who ruled in the Eastern provinces spent most of the revenue """"باقع"""" and only sent gifts to the capital.\(^1\) The sources say that, in Egypt, the average of collection was closely related to the height of the waters of the Nile at flood period. At this period the املاس and the امیر usually co-operated to inform the capital that the level was low. They, however, collected revenue always at high level rates for their own benefit. The sources are voluble concerning this and other types of collection.\(^2\)

With all these extractions from the anticipated amount of revenue it is clear that the amount of yield listed was far different from that actually received by the Treasury. From the lists as recorded by Qudāma and others, and taking into consideration the various kinds of produce from which revenue was to be collected, the comparison between that which was anticipated and that actually

\(^1\)Ya‘qūbī, Buldaš/Aghani, V, pp. 195-6, vol. X, pp. 58; Muqaddisi, op. cit., p. 537.

received must have alarmed the Central Treasury. This probably caused the high officials of it to endeavour to create a system by which it should not be so depleted. The caliph himself would be concerned in the investigation.¹

Concerning the Sawād, the sources mention all these conditions. They speak of the corrupt tax-collectors and their employees who frequently collected three or fourfold the amount of the actual tax for their own benefit. This evil practice applied to every method of collecting, whether damān, gabāla, or direct collection. The sources ignored the part played by the 'āmil in Iraq in spite of its importance and natural fertility. Various reasons could be suggested for their silence in this respect. The non-existence of information here does not necessarily mean that an 'āmil of the Sawād was himself guiltless of similar practices. His behaviour in this respect may not have been questioned on account of the importance of his position. It may have been that such extractions did not appear openly as being taken directly from the yield, or it may have been regarded as one of the everyday occurrences which were not worthy of mention.

When a high official was dismissed from office, his activities during his term of power were closely investigated as were the people employed by him. Very often all his means and property were confiscated. This would seem to reflect that practices of this

kind were common knowledge and were brought to light when the official fell out of favour, or his personal demands on the revenue became exorbitant. A carefully prepared list of confiscations made in the period of the 3rd century show that in every case the culprit was a high official.¹ The sources speak of one exception which was that of a servant who had brought a large sum of money with him which had been paid to him by the governor of Egypt.²

It is virtually impossible to give any figure of the exact proportion of the difference in revenue yield actually received by the Treasury and that collected by the armies of ṣamils and tax-collectors. What ever was extorted by them could seldom, if ever, reach the recorders as in every case those who extorted would keep their activities strictly within their own knowledge.


Appendix

* one qafiz of wheat or barley

** the tax abolished

*** unspecified

**** the rate per two jarīb

***** the rate either on one Persian palm farīsīya, or two other palm trees

d. dirhem per jarīb

q. qafiz per jarīb
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Chapter VI

AGRICULTURE AS A SOURCE OF REVENUE

The agricultural revenues of Iraq, which it is relevant to speak of at this point, were largely spent in Iraq itself. In a few cases part of it was spent either in Khurāsān\(^1\) or used for building fortresses for defence of the land bordering Byzantium.\(^2\)

The revenue derived from agriculture and its effect on the country as a whole, is considered on the following pages.

Qudāma ibn Jāfar provides, in his *Kitāb al-Kharaj wa Ṣan‘at al Kitāba*, detailed information concerning the Sawād revenue. The significance of his work is imponderable, provided as it was by a contemporary writer who was employed as a Kātib by ‘Alī ibn Muhammad b. al-Furat. The latter served as vizier on three occasions during the reign of the Caliph al-Muqtadir (295-320/908-832).\(^3\) By reason of his employment, Qudāma would probably have had access to official documents and registers. In his article relating to Qudāma’s works, de Slane described him as an official occupying an important position in the Abbasid administration.\(^4\) Certainly the informative material which Qudāma has depicted

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\(^1\)Tabarī, *Annals III*, p.1043.


with great skill and veracity renders his work unique. He states clearly that his account of the revenue of the Sawād was based on what was known as the 'ibra of the year 204 A.H./819 A.D. He refers to his sources as representing the reign of the Caliph Ma'mūn which was, as he states, the earliest surviving document of 'ibra in the diwan. He tells us that the diwan was burnt (set on fire) during the war between the two Caliphs al-A'mīn and al-Ma'mūn.\(^1\)

It would seem that his account of the revenue which concerned the Sawaḍ not only represents the year 204 A.H. (819 A.D.). In his account of the individual districts Qudama excludes the figures of both Kurat Asātn Dijla and Nahr al-Ṣila. He affirms that the figures for these districts represent the 'ibra of the year 260 A.H. (873 A.D.). His account, in the main, however, represents the revenue of Sawaḍ as it was registered in 204 A.H. (819 A.D.), shortly after the diwan was re-established.\(^2\) Kremer suggests that Qudama's account of revenue covers the period 204/237 A.H. (819-51 A.D.).\(^3\) Dārī considered it to represent the reign of the Caliph Ma'mūn (198-218 A.H./813-833 A.D.), and that it specifically applied

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1Qudama, Kitāb al-Khawāj wa Ṣanʿat al-Kitāba (Nubadh) (1889), Brill, p.236.

2Qudama, op.cit., p.231.

3Kremor, A. Von, Über des Einnahmetugot... des... Harun, pp. 12-14.
to the years 198-204, which were the first years of Ma'mūn's reign. The 'ibra, however, is a technical term used by the secretaries of the diwan al-Khāraj and refers to "What is taken into account or what is averaged out". In his Kitāb Mafātīḥ al-ʿulūm, Khwārazmī defines the "'ibra" as "the fixing of the ʿSadaqat for each separate province." He also gives another definition for the term 'ibrat ʿSaʾir al-irtifaʾat, as "the averaging-out of the revenue collection of the entire state". Further, he gives a prototype of how to calculate such 'ibra. For this, he says, it is essential to add the tax yield of the best productive year to that of the least productive and then halve the total, after collating the prices and providing against any other contingencies which might arise. Such an average would represent the 'ibra.

From jurist writings it would appear that the word "ʿSadaqa" was related mainly to religious observance of the use of money collected on behalf of charity. The same word does not, however, seem to have been confined to this use by the tax authorities; to then it seems to have been synonymous with taxes in general. The meaning given by Khwārazmī related to the latter definition

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3Bosworth, op.cit., p.135.

4Khwārazmī, op.cit., p.40.
of the word, as he uses it with diwan al-kharaj and classifies it under the heading "mu'ada'at diwan al-kharaj."

Professor B. Lewis thinks, however, that Khwarazmi's account refers to Samanid government offices rather than to those of the Abbasid, but that much of what he says is certainly applicable to Abbasid administration. In his contribution to the Administrative History of Mediaeval Islam, Bosworth added that it was unlikely that the Samanids made very extensive additions to the established corpus of Abbasid administrative practice.

Three centuries later Nasir al-Din Tusi said that "the just and equitable kings" have estimated (the average) on a basis of three years - a good, a medium and a poor one. Nasir al-Din also produces information which helps to clarify the method of calculating the prices and any other factors arising "al-'awari'd" which would need to be taken into account when assessing. He says that in the beginning of each year the average price was "fixed in all exactness and divided into several instalments (hisga). These sums were fixed for each piece of land

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1Supra, p.275, n.3.
2EI, art. 'Daftar'.
5Minovi and Minorsky, op.cit., p.759.
and were presumably registered in the book of the Kharāj, and the amount thus calculated would be collected accordingly.¹

More information is necessary in order to provide a clearer picture, and to explain how calculations were arrived at, taking the other factors into consideration.

The 'ibra, as Løkkegaard understood it, was an average calculated on the basis of the amount of taxes collected during a certain series of years. The 'ibra, however, was not only employed to calculate the tax-paying ability of provinces, but was also used for smaller areas.² Qudāma speaks of the 'ibra of individual astān, while others refer to the 'ibra of a certain dā'ā.³

It would soon, however, that in order to arrive at the calculation of the 'ibra, a large number of officials were employed in fiscal affairs. The surveyor (massāb) played a conspicuous

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¹Boasworth, op. cit., p.120. This survey was the basis of all assessments in the mediæval Islamic world. It can be traced in such widely separated lands as 12th century Norman Sicily, where a special archive for 'dafter al-hudūd existed, and Il-Khanid, Persia, where again a special Archive, the Bait al-Qanun, is mentioned. Hinz, cf., "Das Rechnungswesen Orientalischer Reichsfinanzmter im Mittelalter", Der Islam, XXIX (1950), pp. 134-7. He enumerates the qanun (Reichshebebuch) as the last of the seven basic registers standard in Islamic financial practice from the Seljuq period onwards. Løkkegaard, however, surmises that the Arabic 'Qāmūn' is simply a rendering of the Greek 'xavwv', Islamic Taxation in the Classic Period (1950), Copenhagen, p.108.

²Løkkegaard, op. cit., pp. 16, 105.

³Qudāma, Nubādā, p.237.
part. When measurements of irregular plots of land had to be ascertained, his results were recorded in the special registry for this purpose, known as dārzīn, and became the basis for the assessment. Khawarazmī defines the dārzīn as the record made by the surveyor taken from the rough draft in which the measurements made by the surveyor were set down.²

The Ta'dīl, as has already been stated, was a re-assessment of taxes in order to meet the changing circumstances of individuals or communities over a period. Such reconsideration was imperative in order to estimate the variability of production, lesser fertility of the land, or necessary changes in irrigation methods. Another factor was the demand for produce, and the distance of transportation, the cost of which would most certainly affect the price charged for the various kinds of commodity. A copy of the current ʿibra for each district was forwarded to the central dīwan al-kharaj, the total being the basis of the Dastūr.³

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¹Løkkegaard, op. cit., p.180.

²Khawarazmī, op. cit., p.58. Bosworth, op. cit., p.129, points out that the only scholar who has previously put forward any suggestion, as far as this tax is concerned, is Løkkegaard, Islamic Taxation, p.180, n. 366, cf. 116-117., who tentatively proposes a link with the term 'tirāza' found in Abu Yūsuf's Kitab al-Kharāj.

³Khawarazmī defines ad-Dastūr as "a document giving financial totals copied out from the first draft 'sawād';" Bosworth, op. cit., p.128; Lambton, A.K.S., Landlord and Peasant in Persia, Glossary, 428; see EI², art. 'Dustūr'.
It would seem that such a record was available to Qudama for the year 204 A.H./818 A.D., and that from it he copied his list of 'ibra.\(^1\) When he discovered that no figures had been recorded for that period concerning kūrat dijla and nahr al-Sila, he consulted another official record representing the 'ibra for the year 260 A.H./877 A.D.\(^2\)

In his Muqaddima, ibn Khaldun provides a revenue list of the Abbasid empire which he stated was copied from "Jirāb al-dawla" and represents the reign of the Caliph Ma‘mun.\(^3\) In his translation of the Muqaddima, de Slane defines "Jirāb al-dawla" as "Resources de l'Empire".\(^4\) Levy and Rosenthal prefer to consider it a book.\(^5\) Kramer claims that ibn Khaldun's account does not date from the reign of the Caliph Ma‘mun (as ibn Khaldun himself stated) but that it reflects the situation which existed during the reign of the Caliph Harun al-Rashid.\(^6\) Miah accepts

\(^{1}\) Qudama, Nubadh, p.236.

\(^{2}\) Qudama, op.cit., p.237.

\(^{3}\) Ibn Khaldun, Prolegomenes, tr. MacGuckin de Slane, vol. I, p.364. De Slane, however, suggests that the literal meaning is "sac a Provisions".

\(^{4}\) Ibid.


\(^{6}\) Kramer, A. Von, Über das Einnahmebudget des Harun, pp. 12-14
von Kramr's opinion and considers that the period of account was not sufficiently broad to allow for any changes in revenue conditions.¹

Among Arabic authors, however, "Jirāb al-Dawla" seems to have been used once as a title given to Abu al-'Abbās Ahmad b. 'Alawāh al-Shajārī. Arabic biographers do not seem to mention him. The one reference to him appears in ibn Khaldūn's book and his name appears in full on the cover of his book together with the title Kitāb tarwih al-arwāh wa miftāḥ al-Surūr wa'l-afrah.² This suggests the possibility that Jirāb al-Dawla was an author who probably held an official position in the diwan or was responsible for the S Jillāt and this would enable him to hold such a title.

Considering the possibility of Jirāb al-Dawla as an author from whom ibn Khaldūn derived his information, or at least that he was an official dealing with revenue, it would seem that some account of his information should appear in the only surviving manuscript of Kitāb Tarwih al-Arwāh. Close examination reveals no reference to such an account. It may well have been that there was yet another book by the same or another author, bearing the same title, which is as yet undiscovered. Failing this supposition, the alternative is that ibn Khaldūn perhaps meant that his accounts


were copied from official records (Sijillāt).

It is important, however, to note that the accounts for Khurāsān province as depicted in ibn Khaldūn’s text, do not correspond with those which the Caliph Ma‘rūn commanded his Arāf of Khurāsān to assess in the year 211 A.H./826 A.D. Moreover the central diwan of the kharaj in Baghdad, as has already been stated, was destroyed by fire in the year 204 A.H./819 A.D.; thus ibn Khaldūn’s account of revenue would, in fact, cover the period between the years 205-10 A.H./820-25 A.D., and gives one set of figures representing the Sawād Province as a whole listed with the other provinces of the Abbasid state. These figures represent the provinces only and not the separate districts.

Ibn Khurradadhbeh’s account of Sawād revenue appears to represent the years of the last quarter of the 3rd century A.H., and provides detailed information concerned with the revenue collection from and the administration of the individual districts of the Sawād.2

When comparing the lists of revenue provided by Qudāma and ibn Khurradadhbeh, there is not only similarity in their figures for most districts, but in the method of presentation used, although ibn Khurradadhbeh gives greater detail concerning administration of

1 Jahshiyārī, Muzārē’, p. 300; he states that the Caliph Muhammad al-‘Amin burnt all the ‘Sijillāt’ of the diwan al-kharaj deliberately. Qudāma, however, does not confirm this, but refers to the dissension ‘al-fītna’, between the two brothers al-‘Amin and al-Ma’mūn (op. cit., p.237). This version is also given by ibn al-‘Athīr, al-Kamil ġ al-tārīkh, vol. VI, p.122.

the revenue. It may be said that either both of these authorities derived their information from the same official document, or perhaps ibn Khurradādbeh partly depended on the information made available by Qudāma; while the differences between both of the sources reflect changes in the revenue due to complicated and inter-related factors. It can be said that ibn Khurradādbeh's account could be considered as supplementary to that provided by Qudāma, and both of them established a good basis of comparison indicating the Treasury's share from the agricultural revenue. From this, it is possible to deduce the revenue from the entire province of Sawād.

Von Kromor suggests that ibn Khurradādbeh's work represents the period between the years 231-250 A.H./845-6-875-4 A.D.\(^1\), while Lo Strange claims that it covers the years 249 A.H./862-3 A.D., and is the copy of an official schedule.\(^2\) Dūrī considers it to represent the years 272 A.H./855 A.D. and that both ibn Khurradādbeh and ibn al-Faqīh probably used the book of Qudāma.\(^3\) Adams refers to ibn Khurradādbeh's work as a record of the Abbasid tax revenue in approximately 230 Q.H./844 A.D.\(^4\) Miah

\(^1\)Kramer, op.cit., p.13.
\(^2\)Le Strange, G., Palestine, p.46.
\(^3\)Dūrī, A.A., ِTa'rikh al-‘Iraq al-‘Iqtisādi, pp. 138, 146, 189.
seems to accept Lo Strange's suggestion and says that ibn Khurradadhbeh's figure represents the reign of the Caliph Mutawakkil.\(^1\) Ibn Ḥamdūn, in his Kitāb al-Tadhkira relies upon Jahashiyya's account when he speaks about the reign of the Caliph Harun al-Rashīd and upon that of Qudama when speaking of Ma'mūn's reign, but his copy is incomplete and his revenue total appears confused. He gives the revenue figures for 36 administrative sub-districts contrary to 60 sub-districts quoted by Qudama.\(^2\) His total figures for the revenue yield of the Abbassid Empire also differ; but when ibn Ḥamdūn gives the figures for the revenue of the Caliph Muqtadi's reign, he throws some light on the recovery achieved under his rule and provides information which concerns the beginning of the 4th century A.H. as compared with that of the 3rd century A.H.

Yaʿqūbī, in his Kitāb al-Buldān, occasionally provides valuable information especially when he mentions the reign of the Caliph Muʿtaṣīn.\(^3\)

During his term of office, 'Alī ibn ʿĪsa wrote a complete debit and credit account for the entire Abbassid Empire. He

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\(^1\)Miaḥ, op. cit., p.173.


He presents detailed figures of the revenue from Sawad province for the year 306 A.H./918 A.D.¹ This is made more valuable by furnishing the figures which can be contrasted with the accounts of earlier years. In editing these accounts, Von Kroner suggests that 'Alī ibn 'Isa was forced to make this Balance Sheet in self-defence.² Zaidan accepts this unconfirmed hypothesis by Von Kroner and claims that it was included in a report submitted to the Caliph Muqtadir.³ Bowen describes it as a step toward 'Alī ibn 'Isa's financial reform which he incepted to restore the yearly balance of income and expenditure of the Abbasid government.⁴ But whether it was a method of self-defence on the part of 'Alī ibn 'Isa or part of his plan for financial recovery, the fact remains that it is an excellent record and most informative.

The material for the 3rd century has been made available by the works of Ibn Khaldun, Qudara ibn Ja'far, Ibn Khurra'adibeh; and Ibn Handun's records are endorsed by that which Jahshiyari has left concerning the last quarter of the second century A.H.⁵


²Kroner, op. cit., p. 27.


⁵Miah, op. cit., p. 173.
The information contained in 'Alī ibn 'Isa's Revenue Accounts and in Kitāb al-Tadhkira of Ibn Ḥandūn for the reign of the Caliph Muqtadidir reflects the situation preceding the reign of this Caliph, i.e. the financial recovery achieved under Mu'taṣid and Muktāfī.

Information concerning the revenue of part of Iraq, a'īmāl al-Kūfa, al-Qāṣr, Barūmā al-'a'lā and Barūnā al-asfal, is given by Ṣāḥib in his Taḥfīf al-Umaraʾ ā fil-Tārīkh al-Wuzarah and pictures the financial position of the Abbasid state during the reign of the Caliph Mu'taṣid and confirms the account of Ibn Ḥandūn for the same period.

The Revenue Units of the Sawād

The units of the Sawād, as already stated, are mentioned by Arabic chroniclers and represent the share of the state from agricultural revenue in addition to other taxes, or duties, paid to the Central Treasury of the state. These would include Baghdad market tax, rent of state buildings, poll tax, etc., etc.

Under the Caliph 'Umar I, the revenue for the Sawād was calculated at 128 million dirhems\(^3\) in 'Uthmān's reign the figure was

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2 Ṣāḥib, op.cit., p.13.

3 Ṣulū, Abū Bakr Muḥammad b. Yaḥyā b. 'Abdullāh b. Muḥammad al-Baghdādi, Kitāb adab al-kuttab, 5 vols. (Cairo (1341 A.H.), He gives the figures as 70,000,000 dinars for the revenue of "Sawād al-Kūfa" and states that this revenue went up to 100 million dinars
100 million dirhams. ¹ By the end of Muʿawiya, it became 50
million dirhams as Kharāj tax in addition to another 50 million
as gifts (Hadaya) including the revenue of Ṣawāfī lands.² During
the Zubayrid, the Sawād yield was 80 million dirhams as Kharāj
Ṣawāfī and Hadaya.³ In spite of many efforts to recultivate
the land which had remained flooded since the last days of the
Sassanian period, the revenue of Sawād, during the governorship
of Ḥajjāj, had fallen as low as 25 million dirhams. This
fall in yield may also have been due to war which had broken
out during the preceding period and the subsequent rough treatment
of the peasants by Ḥajjāj, and although he adopted a better
policy toward them in the later period of his term of office,
the revenue collection in his last year fell to a mere 18 million
dirhams.⁵

² Ibid., pp. 219-220.
³ Ibid., p.220.
pp. 14-15; Ibn Rustoh, Abu 'Ali Ahmad b. 'Unar, Kitāb al-a‘laq
al-nafisa, ed. de Gooje, Leyden 1892, p.105.
⁵ Ibn Khurramadhabh, op.cit., p.14; Ibn Rustoh, however, states
that the figure is 16 million dirhams, a‘laq, p.105.
At the beginning of 'Onar II's reign the revenue rose to 80 million dirhems which, together with the gifts (Hadāya) achieved the total figure of 124 million dirhems.\(^1\)

The sources of the 3rd century A.H. show the following total figures for the revenue of the Abbassids from the Sawād:\(^2\)

1. Qudāma b. Ja‘far (before 204 A.H./819 A.D.) 130 million dirhems
2. Qudāma ibn Jā‘far (after 204 A.H./819 A.D.) 114,457,650 
3. Ibn Ḫandūn (for the reign of Ma‘rūn) 130 million 
4. Ibn Ḫalduḥ\(^3\) (for latter days of Ma‘rūn) 27,800,000 
5. Ibn Ḫurradadhbeh (after 272 A.H./885 A.D.) 78,319,340 
6. Ibn Al-Faqīḥ\(^4\) (for the reign of Ma‘rūn) 130 million 
7. ‘Alī ibn ‘Īsa (306 A.H./918 A.D.) 36,723,620 

After examining the amount paid to the Central Treasury of the Abbassid state (Bayt al-Mal al-‘amah) as kharāj or irtifa’, al-kharāj it appears that all kinds of taxes were included in the revenue of the Sawād. It is possible, however, to arrive at an explanation of the differences between the two sorts of figures quoted by Qudāma. That of 130 million dirhems\(^5\) probably represents

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\(^3\) Ibn Ḫalduḥ's figure, probably, did not include the values of taxes collected in kind. In addition to the figure he mentions 200 "Najrānī" dresses and 240 rati of "Ṭīn al-khatm" were collected from the Sawād
the yield of revenue from the Sawad during the early part of
the reign of the Caliph Ma'mun. In the year 204 A.H./819 A.D.,
the share of the state was reduced from its previous 50\% to
40\% of the production of the kharaj\[3 lands. Considering the
sun of 130 million dirhams in the ratio of 40\%, the total
value of the Sawad agricultural produce is equal to 325 million dirhams,
and the sun of 114,457,650 dirhams\[1 at the rate of 40\% is equal
to 286,144,126 dirhams. The difference in these two figures re-
resents the instability of the price of produce, the increase in
the total revenue yield because of the newly created agricultural
areas near Samarra, such as "dīn Samarra al-Sab'a"\[2 in addition
to 6 million dirhams collected from the population of Bagra,
"ṣadaqāt al 'Arab fī al-Bagra"\[3 Miah thought, however, that
the high figures of Qudama's revenue sheet represented the period
from the latter part of the reign of Caliph Ma'mun until that of
the Caliph Mutawakkil.\[4 Miah bases his opinion on Ya'qūb\[3's
statement about the yield of the "Mustaghailat" and the agricultural
resources of Samarra.\[5 It would appear, however, that the share of

The figures of 'Alī b. Tsa in dirhams have been calculated from
dinars for comparison.

\[1 Qudama, op.cit., pp. 242-249.
\[2 Ibid., pp. 236-7.
\[3 Ya'qūbi, Ahmad b. Abī Ya'qūb b. Wāqih al-Katib, Kitāb al-Buldān,
ed. de Goeje, Leyde (1892), pp. 18, 38-9, 254, 258.
\[4 Fabarī, Ta'rīkh, III, pp. 607, 1039; Qudama, op.cit., p.239;
Ibn Khurraḍadbhōh, op.cit., p.58; Ibn al-Tīqīqa, Fakhri, pp. 107,
162.
\[5 Between 254-247 A.H./ 818-861 A.D.
\[6 Miah, op.cit. p.178
the Abbasid Government was 50% of the produce of Kharāji land from the time of Harun al-Rashid1 and it continued at this rate until the year 204 A.H./819 A.D. of the Caliph Ma‘rūn’s reign, when he reduced it, as has been stated, to 40%. 2

If this calculation is correct, Ya‘qūbi’s account of the Mustaghallat and the agricultural resources of the Sāmarrā would increase, not diminish, the difference in the figures. It is not known whether ‘Arida took account of these factors, taking into consideration that the countryside of Sāmarrā and, indeed, the town itself, were partially abandoned at the beginning of the fourth century A.H. 3

The divisions of the Sawād have been thoroughly discussed in this study. In the 3rd century A.H., it was divided into 12 districts "Istān" or "Kūra", including 60 sub-districts, "Rūsūj" or "Nāhiya". 4

in his financial account, however, Qudāna gives the yield from 59 of these sub-districts plus the revenue from the newly irrigated area referred to as "Sāwī Nahr al-Suba", 5 but in ten cases he gives one figure which represents two or more adjacent districts. Qudāna’s

1Jahshiyān, op.cit., p.231.
2Tabarī, Ta’rīkh. III, p.1039; Ibn Tabātabā, op.cit., p.72.
4Supra, pp. 25-7.
5Qudāna, op.cit., pp. 234-6; Ibn Khurraḍahbeh, op.cit., pp. 5-8; Løkkegaard, Fridek, Islamic Taxation in the classic period, Copenhagen, 1950, p.164.
6Qudāna, op.cit. p.37.
figures connect the sub-districts as follows:

Barsūmā, with Nahr al-Malik;
Bābil with Ḍhatarniya;
Rūdmistan with Murmazjurd;
Upper and Lower Rāḏān;
Jāzir with al-Maṣinat al-ʿatIqa;
Silsil with Mahrūdā;
Jalula with Jalulta;
Badraya with Bakasāya;
Upper, middle and lower Zāb;
The four "Tussūjes" of Kasrānd district; and
The five "Tussūjes" of Dijla district.

Ibn Khurradādhbeh also gives figures of the sub-districts in the same manner as Qudāma. It would seem that Miah mistook the lists. He states that the Sawād was divided into 43 sub-units, according to Qudāma and into 41 according to Ibn Khurradādhbeh.

Unfortunately, the boundaries of the division of Sawād cannot be defined, although their general location, in most cases, is fairly clear. For lack of information concerning the areas of the different districts, it is not possible to compare their respective agricultural yields.

1 Supra, p. 289, n 5.
2 Miah, op. cit., p. 177.
3 Adams, op. cit., p. 100.
Each revenue account provided by Qudama, Ibn Khurradadhbeh and Ibn Handun is divided into three columns: Wheat, Barley and Sundries (cash etc.) "waraq" or dirhams, which suggests that the taxes on fields producing wheat and barley, and in a few instances rice, millet and rye, were paid direct and in kind at a fixed rate. The third column, Sundries, would include fruit trees or similar assets, in addition to any other taxes.¹

The total of the revenue figures given by Qudama and Ibn Khurradadhbeh include their estimated value of the tax yield in kind, based on current prices or values.² Ibn Khalduhn's figures for the tax yield from the Sawad seen low by comparison with those of Qudama.³ He does not seem to have included the values of the taxes collected in kind. 'Ali ibn 'Isa's figures, however, have been calculated from 1,836,181 dinars to dirhams in the ratio of 20 dirhams per dinar for the purposes of comparison.⁴

After examining the total figures of all these revenue accounts concerning the Sawad, Adams says that the decline of revenue commenced with the conquest of Iraq by the Arabs and the tax yield from the Sawad as a whole indicates a decline in collection of

¹ Qudama, op. cit., p. 239; Ya'qubî, op. cit., pp. 38-9; Ibn Khurradadhbeh, op. cit., p. 58.
³ Supra, p. 288, n. 5.
⁴ Jahshiyari, op. cit., p. 288; Durri, op. cit., p. 222, n. 1.
perhaps 30% between the Umayyad period and the time of Khurradadbeh (i.e. 844 A.D.). He agrees, however, that much of the decline does not necessarily reflect a decrease in agricultural production so much as the increased diversion of a state revenues by corrupt civil servants and private landholders.\(^1\) Von Kramar also affirmed the decline of agricultural economy, "while simultaneously the grandees of the state, and the ruling classes established for themselves widespread latifundia".\(^2\) A variety of reasons have been put forward, however, concerning the diminution in agricultural production and the falling of the state revenue figures in Iraq during the 3rd century A.D.

If the 3rd century is selected as an isolated period it must be with the knowledge of the conditions which prevailed at the end of the 2nd century and by noting that the revenue, yield from the Sawād during this period varied according to the strength and personality of the Caliphs, the attitude of his administrators and the problems and revolts which faced the state.

It is beyond the scope of this thesis to enumerate the difficulties and revolts facing the Abbasid Caliphate during this period, although it is worthwhile, for the purposes of this study, to summarize the principal elements of this era and to divide them into three periods according to the general conditions of the caliphate

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\(^1\) Adams, *op. cit.*, pp. 97-98.

and especially the aspects of its commercial structure.

A brief resume shows that during the first period, which extended from the reign of the Caliph Mā'mūn to the murder of the Caliph Mutawakkil (between 197-247 A.H./813-861 A.D.) although turbulent with revolts and uprisings, the Caliphs were not only able to quell all threats to their authority, but also able to reach various levels of achievement in their economic policies. This is especially apparent in Sawād where the agricultural yield was such that it enabled them to cover the expenses of wars in addition to expenditure on buildings in the new capital. At the commencement of this period, the Caliph Mā'mūn changed the share of the state from 50°/o to 40°/o and, at the end, Mutawakkil magnanimously postponed the Kharaj tax collection.¹

In the second period, which lasted some nine years after the murder of the Caliph Mutawakkil (247-256 A.H./861-869 A.D.), the Abbasid caliphate lost its strength. The generals of the Turkish guards assumed an important role in the empire. Their finances depended on the yield of the Sawād as by that time most of the provinces of the Abbasid state had seceded. The agricultural situation in the Sawād was badly affected. The Turks collected the revenue for

their own benefit and did not hesitate to exact it twice in one year.¹

During the third period, dating from the reign of the Caliph Mu'tanid to the end of Muktafi's reign (256-295 A.H./870-908 A.D.), the Abbasid caliphate seems outwardly to have regained its former power. The agricultural situation in Iraq reached a high peak and the Sawad, during this period, yielded a larger revenue than it had done for more than 70 years.² In the reign of the Caliph Mu'taqid, as has already been stated, a second postponement of "Iftitah al Kharaj" was made for the benefit of the farmers.³

Most of the revenue which the Abbassid caliphate had drawn from the Sawad during the third century A.H. had steadily diminished. Recurrent wars and rebellions were partly responsible but the diversion of its finance into dishonest and other channels accounts for the diminution rather than the lack of yield in the cultivated area. Such conditions, however, may not have prevailed to the same

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²Ibn Ḥamdūn, op.cit., fols. 186a-188a.

³Ibn Khurraḍāḏbūḥ, op.cit., p.125.
extent in all parts of the empire and no doubt circumstances changed according to different areas. Finally, the extravagant building programmes of successive caliphs, the greed of officials who collected the tax, the looting by soldiers and the threats of external wars, all played a part in the depletion of the state’s revenue.

Perhaps the best way to ascertain the effect of Sawad revenue on Abbasid activities during the 3rd century in Iraq, or in the empire as a whole, is by the study of the expenditure for state requirements and those of the administrative section which supply clarification on this point.

In each of the provinces of the Abbasid state, the diwan al-Kharaj replaced the central Treasury. Current recurring expenditure and soldiers' salaries were deducted from Kharaj and other taxes, and the balance was sent to the central Treasury (Bayt al-mal al-amma). This practice was observed in each province of the Abbasid empire. In each district of the Sawad province, which followed a similar practice, the balance was transferred to the Diwan al-Sawad which, in turn, forwarded it to the central Treasury. This practice continued effectively during the 3rd century A.H., even on the western side of the capital, Baghdad, which was considered as part of the Badurya district, the same system prevailed.¹

From the commencement of Abbasid government four categories of its expenditure can be traced:² military salaries, upkeep of


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boundary fortresses, palace expenditure on the household and allowances to relatives and dependents of the Abbasid family.

It can be said that the Abbasid Government, during the 3rd century A.H., generally followed similar methods. Although there is much more information, spread over several sources concerning the expenditure of the Abbasid state during the latter period, the picture is still not quite clear.

Qudāna, for instance, provides some useful information about the Diwan al-nafaqat (expenditure section). Sabī provides the only complete official schedule of the Abbasid Caliphate during the period under consideration. The author of Kitāb al-Aghānī gives additional information connected with the gifts presented by some of the caliphs to various singers, poets and others. Other sources speak about various factors concerned with expenditure problems such as the cost of creating new towns, enumerating the "Murtaziga", the caliphate palace servants and the guards, the number of the dependents of the Abbasid caliphate family, etc., etc.

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1 Qudāna, Kitāb al-Kharaj (Ahmet III, MS), fols. 7b–8b.
2 Sabī, op.cit., pp. 15–27.
4 Murtaziga and Murtaziqūn are the plurals of Murtaziq; i.e., the employee who received a fixed wage. Mafātīḥ, p. 65.
This information serves to clarify the channels of expenditure and reflects the extent of the financial responsibilities of the central treasury. In addition, it provides a basis for comparison with the amounts of revenue left from agricultural yields after the various deductions had been made.

The special expenses of the Caliph and administration were defrayed by the Diwan al-nafaqat, which is also called diwan al-ahsham. This diwan was also divided into several "najalis" for administrative purposes.¹

Several departments were established by the Abbasid administration especially to deal with agricultural activities, such as a part of Diwan al-Kharaj, whose responsibility was, as already alluded to, mainly the supervision of land, agriculture and irrigation in addition to the assessment of taxes. Qudama refers to "Majlis al-Kharaj" a special department which dealt with problems between both the Diwan al-Kharaj and the military section.² The Majlis al-Kirā‘ provided the central government with every kind of animal required for the various needs of palace life and also controlled the supply of provender.³

The provender was, in fact, the share of the Government from produce and collected with other revenue and stored in the districts

¹Hil, art. 'Diwan'; Løkkegaard, Islamic Taxation, n.160.
²Qudama, Kitāb al-Kharaj (MS), fol. 8b; Šabī, op.cit., p.9.
³Qudama, op.cit., fol. 8a; Šabī, op.cit., p.177.
before being sent to its final destination to be used.

Majlis al-Khazn (storage) was responsible for the storage of wheat, barley and other produce collected as part of the taxes.¹

Ṣābi, who—as has already been stated—provides the only complete list of expenditure for the Abbasid state during the 3rd century A.H., drew his information from an official document and gave detailed information concerning each item of expenditure. This, of course, attaches great importance to his work.²

It must, however, be noted that this schedule reflects only the situation during the first part of the reign of the Caliph Mu‘tādīd. It portrays the financial instability that faced the Abbasid state at that time in contrast to the stable period it enjoyed from the Caliph Ma‘mūn’s reign to the end of that of Mutawakkil. Ṣābi’s figures represent the estimated dinars required for daily expenditure (Muywana)³ of the Abbasid caliphate.⁴

By this means of detailing daily necessities, the Caliph Mu‘tādīd separated day to day expenditure from recurring periodic payments. In addition, this payment was beneficial to the central Treasury; for by payments on the basis of a day’s work instead of

¹QudAMA, op.cit., fol. 8b; Moz, op.cit., p.131; Løkkgaard, op.cit. p.161.
²Ṣābi, op.cit., p.15.
⁴Ṣābi, op.cit., p.15.
that of a monthly sum, the treasury saved the amounts paid to the soldiers and the clerks for two days in each week (Tuesday and Friday) which saving was made by special order of the caliph Mu‘taḍid.¹

The categories prescribed in Caliph Manṣūr’s testament² appear to have been followed, with the exception of "Maṣlaḥat al-Thughūr" which seems to have been cancelled during this period, and the list can be summarised into four categories:³

i) Military salaries (jund) 4,600 dinars
ii) Palace upkeep 1,226 "
iii) Administration 1,035 "
iv) Dependents (‘āfā adh-dhuriya) 120 "

The total of daily expenditure amounts to 6,981 dinars⁴ and the total expenditure of the Abassid caliphate is 2,548,065 dinārs. After subtracting the sum of 515,160 dinārs, which represents a total yearly saving on an average of 4,770 dinārs a day, the actual expenditure figure becomes 2,032,905 dinārs. This sum, however includes 109,500 dinārs for temporary expenditure

¹Ibid., p. 27.
²Supra, p. 295, n.2
³Ṣābi, op. cit., p. 27.
⁴The daily expenditure, according to Ṣābi, was 7,000 dinārs.
during a period in which the daily average was 300 dinārs.

There is no evidence of how long such expenditure continued, although it probably lasted throughout the period of the Zang revolt. Ṣabī's list was collated during a low financial period, and complete details of the normal expenditure do not appear.

In the normal budget of the state such things as the maintenance of the holy cities, Mecca and Medina, and the pilgrim routes leading to them; salaries of Qādis, Muqtasibs, Ashāb al-Mazalim and Ashāb al-Barid, their clerks and other employees, would be mentioned. Such costs are mentioned in Kitāb 'inwān al-Siyar the Turkish translation of Ibn Khaldūn's history. It seems that the manuscripts used by Turkish translators contain more detailed information than those of other existing Arabic copies. Ibn Khaldūn's information represents the early years of the 3rd century A.H. Similar costs are mentioned in the budget of 'Alī ibn 'Īsā for the year 306 A.H./918 A.D., and give a total yearly figure of 977,301 dinārs. Jahshiyārī indicates that the clerks of the Qādis received their salaries from the central treasury. The total yearly cost of the Barid section, according to Ibn Khurradādibh, was 159,100 dinārs. Similar expenditure would probably occur.

3Kramer, Einnahmebudget, p.303 ff.
throughout the remainder of the 3rd century.

In addition to the information dealing with diwan an-nafāqat and the budget of the Caliph Mu'taṣida, Arabic texts provide information concerning the expenditure made by many of the caliphs during the 3rd century A.H. They show that:

i) At the time of his arrival in Iraq, the Caliph Ma'mun's finances were very low. This state of affairs appears to have been of short duration for expenditure during his reign shows a general increase. Many individuals were beneficiaries: his wife Dūra b. al-Hasān b. Sahh, his son al-'Abbās, his brother al-Mu'taṣim (who afterwards succeeded him) and his father-in-law al-Hasan b. Sahh; also some of his governors, 'Abdullah b. Ṭahir and Ḥassān b. 'Abbād; his military leader al-Hasan b. Qāhāba; singers such as Ishaq b. Ibrāhīm al-Maṣūlī, 'Alawāh and Mukhāriq; poets, including Abu '1 'Atāhiya, al-Ḥusayn al-Dāḥik and Marwān b. Abī Ḥafs.1

Some of his expenditure covered the cost of establishing Military posts based on the frontiers of Byzantium in addition to the palace and library in Baghdad.2 The two latter buildings were probably financed through "Majlis al-Bina' wa'l-Marāma" in diwan an-nafāqat.

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while the rest went through the accounts of Majlis al-Hawadith in the same diwan.

The Caliph Mu'tasim was less interested in songs and poems than Ma'mun. It appears to have been centred on building his now capital, Samarra, and on war efforts. He concerned himself with public assistance during times of state disasters. On one occasion he gave 5 million dirhams as indemnity for fire damage in Baghdad, and at his death he left 10 million dinars.²

During the reigns of the caliphs al-Wathiq and al-Mutawakkil, particularly during that of the latter a higher status was given to singers, poets and other artists who proffered their efforts for financial reward. The more effusive the laudation given by a singer or poet to some notable personage or event, the higher their reward for such eulogy, and the emptier became the coffers of the state.³ Mutawakkil, however, built his new residential area to the north of Samarra, in the Mahuza district on which - according to Tabari - he spent more than 2 million dinars.⁴

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²Khitib al-Baghdadi, op. cit., vol. IV, p.149.
Confiscations and extortions (musādara) became more frequent during the reigns of both those caliphs and this, together with the information extant concerning expenditure, emphasises the financial instability of the time. The sufferers from confiscations and extortions (al-musādarîn) were usually those who possessed considerable wealth and held important posts in the state's administrative regime.

This policy, although most unfair to the individuals concerned, yet had an advantage in reducing individual wealth and circulating it - which is always an asset to public interests.

ii) During the period when the caliphate was subordinate to the Turks, the central treasury was abandoned. All taxes and confiscated monies and properties were divided between the generals of the Turkish guards. No forts were built and no improvements of any kind were made. The soldiers were the main drain on public expenditure. Tabari refers to the estimated salaries of military detachments as the caliphate guards alone, in the year 252 A.H./866 A.D., as 200 million dinārs. Tabari somewhat sarcastically

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speaks of this sum as being "the equivalent of the whole revenue of the state for two years".\footnote{Tabari, vol. III. p.1685.} It would seem, however, that this figure reflects an increase in the number of such detachments.

Musta'in (248-252 A.H./862-866 A.D.) in his remonstrance to the Turkish guards in 215 A.H./865 A.D., refers to the generosity which elevated 2,000 of their boys to the rank of soldiers and 4,000 of their girls to the status of married women.\footnote{Ibid., vol. III, p.1682; Ibn al-'An'ir, vol. VII, pp.54-55}

This probably signifies that Turkish married women had a special allowance.

Later, the Caliph Musta'in returned to Baghda and again made it the capital of the caliphate. He spent 330,000 dinars to fortify its ramparts as a line of defence against the Turks.\footnote{Ibid.}

Tabarî affirms that during the siege of Baghda in 251 A.H./865 A.D., provisory conditions concerning the revenue of the state were made between the heads of the opposing forces. By this treaty 80,000 dināras were allocated to the Caliph Musta'in in return for his promise to abdicate. Two thirds of the remainder was allocated to the Turkish forces of Samarra' and one third to the military forces of Baghda.\footnote{Tabari, vol. III, p.1640.}
Ibn al-Faqqih states that during the reign of the Caliph Mu’tazz (252-255 A.H./866-869 A.D.) the Qur’ān readers of Basra, "al-Qurrā’", received their payment from the dīwān in the capital, Samarra'.

Tabari mentions that Mu‘taz’s mother drew the sum of a million dīnārs yearly from the revenue of the state. After murdering her son, the Caliph Mu‘taz, the Turks confiscated all her property and wealth.

Muhtadī (255-256 A.H./869-70 A.D.), who was caliph in name only, requested the Turks merely for enough food for him and his relatives.

All these incidents confirm that the whole state revenue had become, in this period, absorbed by the Turkish militia.

iii) The central treasury of the Abassid state was empty at the beginning of the Caliph Mu‘tadī’s reign (256-279 A.H./870-892 A.D.) and he was forced to request a loan from some tradesmen. Later, it would seem that the position had changed. For instance, the author of Kitāb al-‘Aghānī relates that 1,000 high quality dresses were sent by Mu‘tadī to a favourite lady singer. Another source

1 Ibn al-Faqqih, Bulun, p.118; also, Jahshiyārī, p.113.
5 Aghānī, vol. XVI, p.15.
however, states that towards the end of Mu'tamid's reign his vizier, Isma'îl ibn Bulbul exacted the revenue of the Sa'wâd twice in one year (277 A.H./890 A.D.).

In addition to the evidence of Šabî concerning the budget of the Caliph Mu'tadid, Tabari, Mas'udi and Isfahani, amongst others, provide information of Mu'tadid's reign. Tabari says that the Dujail canal was dredged in the year 283 A.H./896 A.D. at a cost of 4,000 dinârs. In the year 288 A.H./901 A.D., the Caliph Mu'tadid sent ten million dirhems to the governor in Khurâsân to be distributed among the soldiers of certain military divisions there. Tabari, however, contradicts his previous account by stating that other information revealed the sum of 10 million dirhems was ordered by the caliph, 3 million of which were sent from the treasury in Baghdad and letters were sent to governors in the western provinces ordering them to hand the balance, 7 million dirhems, to his messenger. There is, however, evidence that one million dirhems had been sent yearly to the governor of Khurâsân from the central government, which indicates that it was traditional to remit this sum frequently.

1Bowen, op.cit., p.29.
3Ibid., vol. III, p.2204.
4Ibid., pp. 2204-5.
Tabari relates that on the occasion of the appointment of 'Abd al-Husayn ibn al-Husayn as governor of Khurasan by the Caliph 'Abd al-Malik in the year 205 A.H./820 A.D., 'Abd al-Husayn was encamped with his soldiers near Baghdad. The "million dirhams which were always sent to the governor of Khurasan were carried to him as was the custom".

The origin of this custom is outside the scope of this thesis and is contrary to the figures given in the estimates of the Abassid provinces or those of the central treasury. There is no information with which to clarify the reason for sending such a sum.

Both Mu'taqqid and Muktafi gave their attention to building and, according to Mas'udi, both of them left reasonable sums of money for the benefit of the central treasury. Such information reflects improvement in the budget of the state rather than the limitation of expenditure.

It is noteworthy that the revenue yield of Iraq represents an important figure when compared with that of the other provinces. It is certainly true that during a short period of the 3rd century A.H., Iraq was the only source of revenue of the Abbasid state. Excluding this period, the revenue of Iraq, and especially that from agriculture, was the most important asset of the Abbasids.

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2 Mas'udi, Marujj, vol. VIII, pp. 215, 225-6.
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   a) Books
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<table>
<thead>
<tr>
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