Chapter X

EXEMPLARY ON THE IMPERIAL MILITARY ESTABLISHMENT

In delineating the pattern of distribution of the gross national product the next step would be to estimate the expenditure on the Imperial military establishment. In addition to the mansabdārs and their troopers the Mughal administration maintained Imperial horsemen (ahadīs), auxiliaries (kumkis), infantry (pivādāgān) and artillery.¹ The large number of war animals and beasts of burden (horses, elephants, camels, mules and oxen) belonging to the Imperial stables too would have required a not inconsequential proportion of the total revenue resources of the Empire. The expenses incurred on the Imperial arsenal, armory and fire-arms could not also have been negligible.

On the basis of information given in the Ain, one may attempt an estimate of the expenses incurred on these various items. While the information is not detailed enough to lead to a precise estimate of expenses, at least the extreme limits can perhaps be determined.

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1. Ain, I, p.175.
AHADĪS

According to Abūl Faţl some troopers were not awarded a mansab but they were also not placed under the command of anyone else. They were among the Imperial servants (bandagān-i khās) and served individually, being paid directly from the Imperial treasury. Such troopers were known as ahadīs;¹ as if, that is, their mansab was one (shad).²

The Ain tells us that Akbar set fresh regulations (dastūrg) for the gradation of the Ahadīs and laid down the procedure for their recruitment and fixation of salary. Separate diwāns and bakhsāis were appointed for them.³ These measures were most probably a part of his great attempt at administrative and military reorganization, undertaken about the 19th regnal year (1575–6). The ahadīs seem to have

1. ʿAin, I, pp.175 & 187.

2. The practice of maintaining some horsemen as Imperial troopers seems to have continued from Humayun’s reign. Khwandmir mentioned them among those belonging to the 4th of the twelve grades (ṣir; lit. arrow) (Qanīnš-i Humavī, p.44). The Imperial horsemen seem to have been previously called yakka tāzan (lit. single riders) and are referred to as such by Khwandmir. The name was altered during Akbar’s reign to ahadīs (Akbarnāma, III, p.219).

formed the lower ranks of the Imperial service; they were also employed in various Imperial kārkhānas. It is a little difficult to determine their precise number. Abul Fazl says under the 22nd regnal year that the number of the Imperial horsemen (sawāran-i khāsa) had been fixed at 12,000; and that these were known as ahadīs. But this figure becomes somehow suspect at least for the 40th regnal year on account of the comparatively low figure for the ahadīs reported for the time of Akbar’s death and the early years of Jahangir’s reign. Pelsaert, giving the number of those “from the highest to the lowest who, after Akbar’s death entered Jahangir’s service” enters 741 chāhar aspa (4-horse troopers); 1,322 sīh-aspa (3-horse troopers); 1,428 do-aspa (2-horse troopers) and 950 vak-aspa (1-horse troopers) i.e. 4,441 ahadīs, in all.¹ Hawkins, writing in the early years of Jahangir (1608-13), gives the number of “haddies” (ahadīs) as 5,000; but his 5,000 included horsemen with six horses (shāsh-aspa) as well.² By Shāhjahān’s time while the number of the mamsābdras had increased considerably, Lāhūrī gives the number of 7,000 for the ahadīs and barq-andāz savār (mounted musketeers), under the 19th regnal year (1647).³

* Akbarnāma, III, p.219.
1. Pelsaert, p.35.
This evidence for the number of 

This evidence for the number of **ahādīa** during the succeeding two reigns, then, suggests that, **Abul Fazl's figure of 12,000 is much too high**. The very context in which Abul Fazl has mentioned the number of **ahādīa** hints at the possibility of overstatement. This statement is immediately followed by the account of the award of the **mansāb** to the royal princes. **Abul Fazl states that the number of the troops of nobles did not exceed 5,000; and the number of the savarān-i khasa called the **ahādīa** has been fixed at 12,000.**

He, then goes to give the ranks awarded to the princes which ranged from 6,000 to 10,000.² It seems that Abul Fazl here is treating the number of the **ahādīa** as equivalent in a sense to the rank of the Emperor himself, since at that time the number of rank indicated the number of troopers that had to be maintained.² He could, therefore, hardly have admitted that the actual number of the Emperor’s own troopers was only 5,000.

We, therefore, should take Pelsaert’s figures of **ahādīa** at the death of Akbar as more plausible. An interesting point to note is that his break-down of the **ahādīa** into

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chahār-aspas, sinh-aspas, do-aspas and yak-aspas in ratios of
2 : 3.6 : 3.8 : 2.5 practically conforms broadly to the
standard formula of composition (2:3:3:2) prescribed for the
mansabdārs' contingents, when the mansabdār was required to
maintain the chahār-aspas as well.¹

Abul Fazl says that quite a few ahadīs received
more than 500 rupees per month. Such cases must have been
very exceptional, since even the personal monthly pay of a
dah-bāshī (commander of 10 troopers) was Rs.100.² On the
other hand Badāūnī gives the barāwūrdī pay (blūka-i barāwūrdī)
as only six rupees a month; he, however, mentions only do-aspas,
yak-aspas and a nīm-aspas among the categories of the troopers,
the nīm-aspas being a trooper sharing his horse with another
trooper.³ The rate quoted by Badāūnī seems a little low, since
the barāwūrdī rate for a yak-aspas trooper of a mansabdār was
600 dāms, or Rs.15 a month.⁴

Whatever the amount allowed to an ahadī, it is quite
evident from the Ain-i Akbarī's description that the pay was
fixed in two stages, in the same manner as was the talab-i

² Ibid., I, p.186.
³ Badāūnī, II, p.191.
⁴ Akhbarnāma, III, pp.671-2.
tabīnān (pay against the sawār-rank) of the mansabdārs. At the time of appointment the provisional (baraqardā) rates were allowed; and these were afterwards enhanced by 12½ to 700% (aṣḥīm sawār — tā dah-haftād).¹ The total salary was consisted of his personal allowance (rozgār)/allowance for his horse (kharch-ījatūr).²

Though one has to assume a wide disparity in the rates paid to the ahādis, the average scale of pay may be worked out on the basis of allowances, sanctioned by the Imperial administration for the horses of various breeds and the pay allowed for a vak-aspā trooper with different breeds of horses,³ following the same procedure as the one for working out the dāghi-rate for mansabdārs' troopers.

Since a dāhbašī was required to keep Turkī and Yabu horses in even proportion against his personal rank,⁴ and these were the two breeds mostly maintained by other tabīnān.⁵

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1. Āīn, I, p.187.
2. Ibid.
3. Ibid., p.188.
4. Ibid., p.186.
5. See Chapter IX.
One may not, therefore, be far wrong in assuming that the shadis too maintained horses of these two breeds. Moreover, except for the first horse, all subsequent horses were provided to the shadis in part-payment of their salaries by the administration; so that horses of the shadis generally should have been of superior breeds. We may allow the same amount for personal subsistence of the shadis as was sanctioned for the horsemen maintaining Turki and Yabu horses, namely Rs.8 a month.

Proceeding on these several assumptions the stipend of the shadis with different number of horses may be worked out as follows:

<table>
<thead>
<tr>
<th></th>
<th>Turki</th>
<th>Yabu</th>
<th>Personal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>chahar-aspa</td>
<td>2 x 14</td>
<td>+ 2 x 12</td>
<td>+ 8</td>
<td>55</td>
</tr>
<tr>
<td>gih-aspa</td>
<td>1 x 14</td>
<td>+ 2 x 12</td>
<td>+ 8</td>
<td>46</td>
</tr>
<tr>
<td>do-aspa</td>
<td>1 x 14</td>
<td>+ 1 x 12</td>
<td>+ 8</td>
<td>34</td>
</tr>
<tr>
<td>yak-aspa</td>
<td>0 x 14</td>
<td>+ 1 x 12</td>
<td>+ 8</td>
<td>20</td>
</tr>
</tbody>
</table>

If we now multiply the number of shadis in different categories with these rates, we may get an estimate for their

total salary bill in rupees for the month, as follows:

<table>
<thead>
<tr>
<th>Aspa Type</th>
<th>Rate</th>
<th>Number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>chahar-aspa</td>
<td>741</td>
<td>55</td>
<td>40,755</td>
</tr>
<tr>
<td>sih-aspa</td>
<td>1,322</td>
<td>46</td>
<td>60,812</td>
</tr>
<tr>
<td>do-aspa</td>
<td>1,422</td>
<td>34</td>
<td>48,348</td>
</tr>
<tr>
<td>yak-aspa</td>
<td>950</td>
<td>20</td>
<td>19,000</td>
</tr>
</tbody>
</table>

Total   Rs. 1,60,915

This in turn would give 8,10,79,200 dāms per annum as the total expenditure on the salary bill of the ahadīs.

PIYĀDAGĀN

We may now attempt an estimate of the expenses incurred by the Mughal administration in meeting pay-claim of another category of Imperial servants, grouped by Abūl Faẓl under the designation of piyādagān (foot-retainers). This broad category covered not only the foot-soldiers, musketeers, archers and swordsmen but also clerks, gate-keepers, palace guards, wrestlers, runners, spies, palanquin-bearers and slaves. Even some of the carpenters, diggers, blacksmiths and water-carriers were counted among the foot retainers. Abūl Faẓl thus appears to have counted all the Imperial servants other than officials, who were not horsemen,
among the pîyâdâgân.¹

The ʻAin-i Akbarî gives the pay-scale for almost all the categories of foot-retainers; and for some categories it also mentions the total number of employees. Since the number is not given for all the categories it is not possible to compute the expenditure on all the foot-retainers. Nevertheless, the amount spent at least on some major categories of the pîyâdâgân can be estimated with some degree of confidence.

First of all, there was a sizable number of musketeers (bandûqchîâ). Abûl Fâzîl gives their number as 12,000 and devotes a separate chapter (ʻAin-i Mâhwâra-i bandûqchî) to the statement of the pay-scales sanctioned for them.² Since the musketeers belonged to the category of the pîyâdâgân the same pay-scales are repeated again in the chapter on foot-retainers.

The musketeers were divided into various grades; and their pay-scales varied accordingly. There were four grades of mir-dâhs (captains of 10 musketeers) with monthly salaries of 300; 280; 270 and 260 dâms. For the ordinary musketeers,

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1. All the information from the ʻAin used in this section is drawn from the chapter on the foot-retainers in the ʻAin-i pîyâdâgân, (ʻAin, I, pp.188-90), if not otherwise indicated.

2. ʻAin, I, p.127. Shahjâhân's official historian, Lahorî gives 40,000 as the number of "unmounted musketeers, gunners, cannoniers, and rocket-throwers", of whom 10,000 were in attendance at the court and the remainder ('3,000' in the text being an obvious error for 30,000) posted "in the provinces and forts". (Lahorî, II, p.715). Presumably, the number of musketeers and foot-soldiers in the artillery increased substantially between 1595-96 and 1646-47, the year for which
there were five grades, each of which was further divided into three classes. The rates for all of these varied from 250 to 120 dāmā a month.

While we have no means of finding out the precise number in each grade, it seems reasonable to assume that out of 12,000 musketeers the number of mīr-dahs was 1,090 and the remainder were 10,910 being ordinary musketeers, since this would give us the ratio of 1:10 between them.

As noted above the rates were not uniform for all the mīr-dahs, and the ordinary musketeers. We may still estimate the total expenditure, by taking the average rates, as follows:

\[
\begin{align*}
\text{Mīr-dah} & : 1,090 \times 277.5 = 3,02,475 \\
\text{Ordinary} & : 10,910 \times 180 = 19,63,800 \\
\text{Total} & \quad 22,66,275 \text{ dāmā/month}
\end{align*}
\]

The entire salary bill for the musketeers, therefore, may be estimated at 2,71,95,300 dāmā/year.

One thousand darbāns (gate-keepers) were employed to guard the royal palace. The pay of the mīr-dahs was specified in five grades, ranging from 200 to 120 dāmā per month. Assuming that they were evenly divided into the various grades,
the average monthly rate for the mir-dahs should have been 150 damas. The maximum rate for an ordinary darbān was 120 damas while the minimum was 100; that is, on an average the ordinary darbān received 110 damas a month. There should have been 90 mir-dahs out of 1,000 darbāns. The salary-bill of the gatekeepers may, therefore, be estimated as follows:

<table>
<thead>
<tr>
<th>Mir-dah</th>
<th>90 x 150 = 13,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary darbāns</td>
<td>910 x 110 = 1,001,100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,13,600 damas/month</strong></td>
</tr>
</tbody>
</table>

Or 13,63,200 damas per year.

There were a thousand guards known as khidmattivas to watch over the environs of the royal palace. They derived their name from the title of khidmat rai given to their chief. There were four ranks among them; the panjahi and bistī (captains over 50 and 20) received 200 damas a month; dah-bāshīs (captains of over 10) 180 to 140 damas; and the rates for others varied from 120 to 110 damas a month. It is again not possible to determine the numbers under the various ranks. However, allowing the average salary of the dah bāshi as 160 damas; and for others 115 damas a month (the average of the sanctioned rates), we get an estimate that would be rather on the lower side, since the rates for the panjahīs and the bistīs
are not taken into account. The estimated amount required for paying the khidmattiyas would then be:

\[
\begin{align*}
\text{The dah bəshī} & : 90 \times 160 = 14,400 \\
\text{Others} & : 910 \times 115 = 1,04,650 \\
\text{Total} & : 1,19,050 \text{ dāms/month.}
\end{align*}
\]

Or 14,28,600 dāms per annum.

For supplying intelligence and conveying orders over distances the Mughal administration employed people called nəvrəhs; they worked as spies as well. Firishta describes the nəvrəhs and their remarkable speed and says that 4,000 of them were employed in Akbar’s service.¹ Firishta says that the nəvrəhs rode horses, but Abūl Fazl classifies them among the foot-retainers and gives their number as 1,000 only. He adds that their grades and pay-scales were similar to those of the khidmattiyas. Accepting Abūl Fazl’s figures rather than Firishta’s, the expenditure on the nəvrəhs may be put at 14,28,600 dāms a year.

The Ain says that the number of swordsmen in the Empire exceeded one hundred thousand, but only 1000 were

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¹ Firishta, I, p.272.
employed in Imperial service. The highest monthly pay allowed for them was 600 dâns, and the lowest 80 dâns. While there is a wide disparity between the rates, we may take the mean of the two extreme limits as applicable to all, for the purpose of estimating the total salary-bill for the swordsmen. The annual expenditure would on this basis work out at $(340 \times 1000 \times 12 = )$ 40,80,000 dâns.

The palanquin-bearers (kabârs) too were among the pîyâdârân; their leader (sar-gurâh) received 384 to 192 dâms per month, while the others were paid from 120 to 160 dâms. The Âin says that 'some thousands' were in service. Taking some to mean a figure above 2,000, we have rather arbitrarily taken the number to be 3,000 and treating all as ordinary, and allowing the average salary for all, a rough estimate of the expenditure is offered as $(3000 \times 140 \times 12 = )$ 50,40,000 dâms/year.

While including clerks and wrestlers in its chapter on foot-retainers, the Âin sets out their pay-schedules; but their numbers are not given. Rather curiously the slaves too are treated as foot-retainers by Âbil Fazl. Some of the slaves appeared to have served as artillerymen as well. Matchlocks were handed over to them after they had been manufactured in the Imperial workshops.¹

¹. Âin, I, p. 126.
The number of foot-soldiers is not given while their salary is stated. Their salary bill which must have constituted the major portion of the total expenditure on the foot retainers cannot, therefore, be calculated.

Numbers are not given for other categories of foot-retainers, such as carpenters, blacksmiths, diggers, water-carriers and archers. The amount spent on them could not have been negligible since even for setting up one camp 500 diggers, 100 water-carriers, 50 carpenters, 30 leather-workers and 150 sweepers were required.¹

The foot-retainers also worked in several other Imperial establishments. The Ain gives the minimum and maximum rates of pay of the foot-retainers in each establishment, but it is not possible to determine their numbers.

The total expenses on the salaries of musketeers, gatekeepers (darbāns), palace-guards (khidmattiyas), runners (mewrahs), swordsmen (shamshīrbāz) and palanquin-bearers (kahārs) that we have been able to estimate on the basis of some quantitative evidence add up to 4,05,35,700 dāms/year.

The question arises whether the foot-retainers for whom this estimate is offered covers all such persons employed in the Imperial Establishment. On the purely military side, for example, there were gunners (topchīs) (besides musketeers), and

¹. Ain, I, p.42.
archers; there were other retainers, like blacksmiths, diggers, water-carriers, etc., working at the Imperial Camp (apparently those not employed in the Building Department or other departments of Imperial Establishment, the payments of whose staff are included in estimates offered in Chapter XI). For such staff left out in our estimates for certain categories of foot-retainers and for those not covered by estimates in Chapter XI, we may assume a scale of expenditure amounting to about half of what was spent on the pay of the categories already covered. The estimated sum of 4,05,35,700 देमा arrived at above may thus be increased to 6,00,00,000 देमा so as to represent a comprehensive figure for expenditure on all "foot-retainers" outside those covered under Chapter XI.

II

The elaborate account of the Imperial animal establishment given by Abul Fazl, tempts one to seek ways of making an estimate of expenses incurred in the Imperial stables. Though part of the expenses may be characterised as the cost of conspicuous consumption, for the major portion these expenses must still be regarded as part of military expenditure. The आईं furnishes detailed descriptions of the stables of elephants, horses, camels, bullocks and mules. These animals were kept not only for display, but also - and, perhaps, mainly - for use in marches and battles, and for military transport. The game-animals such as cheetahs, deer, pigeons, etc., are dealt with separately in the आईं and will be treated by us under Household Expenditure in Chapter XI.

1. आईं, I, pp.128-53.
2. Ibid., 205-14, 216.
Abul Fazl devotes separate sections to classification of the animals, their diet, furniture, apparel, trappings and attendants.

HORSES

To begin with the most important animals from the military point of view, the horses were broadly classified into two categories, (1) khāṣāy, horses intended or available for the Emperor's personal use; and (2) ghair-khāṣāy, other horses in the Imperial stables. The ghair-khāṣāy horses were placed in stables of the royal princes, stables of the khanzād (stud-bred) horses and the ṭalwar (courier) horses.

There were apparently two criteria on whose basis the Imperial stables were classified: First, the number of horses in a stable,


2. These horses appear to be different from those which the princes were required to maintain against their mansabs. Even a dīn-khāṣāy, the holder of 10,000 (the mansab held by Prince Salīm) had to maintain some horses of inferior breeds, such as tāzi and jangla (p.180). But the Imperial horses assigned to the princes' stables were of such superior breeds and high value that they were regarded next to the khāṣā horses only. The general rule was to make good any deficiencies in the khāṣā stables from among the horses assigned to the princes' stables (p.145). After the death of Prince Murād, horses of his stables were incorporated into the khāṣā stables.
the largest being chehal-espi (containing 40 horses) and the
smallest dth-espi (10 horses). Secondly, the price of a horse:
For example, some stables were designated haftad-muhri, because
horses of the value of 70 muhra each were kept there.

Both the quantity and quality of food allowed per
horse as well as the trapping, apparel and furniture varied
from stable to stable. The stipends of various attendants
too were different for different stables.

Horses belonging to the khāsa stables were allowed
a larger and more expensive diet; and the wages of the attend-
ants too were highest here. Usually, the quantities of
various commodities allowed as part of diet for the various
kinds of horses are specified; but the prices of the articles
or total expenses thereon are not furnished. Similarly, the
expenditure on the harness per horse in the various stables
cannot be determined. For many of the offices in the Imperial
stables, it is simply stated that their holders were mansabdars
ahdīs or pīyādas; but their emoluments or ranks are not given.

1. Ain, I, p.141.
Thus, although the data provided are at first sight abundant, there are yet so many lacuna that the precise monthly expenditure on horses belonging to the various Imperial stables cannot be easily calculated. Even if we could work out some estimate for a stable, we face the further difficulty that the number of stables of various kinds is not given.

The one possible means of working out expenditure on horses in Imperial stables is then to go back to our calculations for expenditure on the mansabdars' horses. The Ain provides us with the amounts of individual items of expenditure on those horses as well as the monthly allowances sanctioned for them. By comparing the amounts and quantities allowed on similar items for horses of Imperial stables, we can estimate the difference in the scale of expenditure sanctioned for the Imperial horses, in terms of that on the mansabdars' horses. Since the actual amount of expenditure allowed on the latter is known to us, we can then work out by simple arithmetic, the expenditure allowed on Imperial horses.

In the Imperial stables the quantity and quality of food varied according to the breed or value of the horse.

However, grain fodder (dāma) was allowed at a uniform daily rate of 7½ sers. The quantity of sugar and phi, for those to whom these were allowed, was ¾ to 1½ sers and 30 to 50 sers a month respectively. Two dāma a day were sanctioned for hay.\(^1\) The quantities sanctioned for the mansabdar's horses were 5 to 6 sers of grain fodder for the day, 30 to 60 dāma a month for sugar, 10 to 75 dāma a month for phi and 30 to 90 dāma a month for hay.

While the only attendant allowed for a mansabdar's horse was a groom (gaīā), the Imperial stables were far more lavishly staffed. Besides the groom, there were 1½ dozen posts of other servants in each of the Imperial stables. The khāsa stables had even a sipandsōk - a person whose duty was to burn certain seeds to guard against the evil eye. On the other hand, as we have noted, some of the functionaries were mansabdār, and quite a few attendants got their salaries on the rolls of abadis or nivādas.\(^2\) The attendants were not only more numerous than allowed to the mansabdār on their horses, but were also paid at higher rates. The wages of a groom in the Imperial stables ranged between 50 and 65 dāma a month, for taking care of one horse, while the amount sanctioned for the groom, attending a mansabdar's horse was between 45 and 63 dāma a month.

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The expenditure per horse on harness is, as mentioned earlier, difficult to work out. The annual allowance on horse-apparel (harsala-poshish) ranged from 155½ to 227½ dāns. It excluded the costs of ornaments and jewels etc. The amount sanctioned to the mansabdārs under the head kharch-i yaqūq-i asp was 8½ to 70 dāns a month. The upper limit of allowance to mansabdārs on this account appears rather high in comparison to 227½ dāns per annum allowed for even the khāsa horses; but the yaqūq-i asp included items which were not a part of horse-apparel of Imperial horses, namely, pāv-band (leg fastening), mekh (iron pegs) etc. Moreover, the cost of jewels and ornaments used in the various parts of horse-apparel is not specified, though it must have been very high.

It is obviously not possible to determine the precise difference between the cost of maintenance of a horse in the Imperial stables and that of the horses of a mansabdār, given the lacuna in our information. But the disparity between the wages for the grooms and the quantity of grain-fodder allowed may serve as a rough index of the difference in the expenditure.

1. Ain, I, p.142. These amounts (except 227½ dāns, for which no break-down is offered) exactly equal the sums of the costs of different articles given under clothing; but the prices of items charged twice a year are not counted twice. The totals therefore appear more to be the value of the total out-fit rather than the total annual expenditure on horse-apparel.

As we have seen, the wages of the grooms employed by the Imperial establishment were 10 to 26% higher than the stipend allowed for the groom employed by the mansabdārē. Moreover, the Imperial horses were allowed 20% more grain-fodder than the horses belonging to the mansabdārē. Keeping in view the higher expenditure on all other heads (with the remotely possible exception of harness) in the Imperial stables, we may venture to estimate the Imperial expenditure on a horse as at least 20% more than that allowed to the mansabdārē for a horse. If anything, this perhaps errs on the side of understatement in respect of expenditure on the Imperial horses.

If we could now work out the actual number of the horses of various breeds in the Imperial stables, we should be able to estimate the expenditure on the maintenance of horses, by allowing for each breed a rate of expenditure per horse that is 20% above the rate sanctioned for that breed under mansabdārē. Abūl Fazl says that Imperial stables were continually enlarged, while at the same time many horses were given away; the total number present in the Imperial stables remained at about 12,000.¹ This figure is strikingly corroborated by Hawkins, Firishta and Pelsaert (c.1626), all saying

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¹ Ain, I, p.140.
that Akbar had 12,000 horses in his stables at his death.¹

But we require also a break-down according to breeds. Such a break-down is provided only by Hawkins² and Pelsaert,³ who give the following rather divergent figures:

<table>
<thead>
<tr>
<th>Breed</th>
<th>Hawkins</th>
<th>Pelsaert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persian</td>
<td>4,000</td>
<td>3,200</td>
</tr>
<tr>
<td>Turkish</td>
<td>6,000</td>
<td>5,970</td>
</tr>
<tr>
<td>Kashmiri</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>Cutch</td>
<td></td>
<td>2,540</td>
</tr>
<tr>
<td>Sind</td>
<td></td>
<td>210</td>
</tr>
<tr>
<td>Mares</td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

It will be seen that the two enumerations practically agree as to the number of Turkish horses, which comprised more than three-fourths of Akbar's stables. In respect of the Persian horses, the difference, though noticeable, is not very substantial, Hawkins setting their number at a third of the total and Pelsaert above a quarter. The main difficulty is about the identification and numbers of the remaining breeds. According to Hawkins these horses numbering 2,000 were from

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² Hawkins, p.103.
³ Pelsaert, Chronicle, & c., pp.34-5.
Kashmir; but Pelsaert describes 2,540 of them as of 'Cutch'.
The Ain's own testimony is not of any help, since it simply
mentions horses of Kashmir as well as Cutch among the
Imperial horses.¹ For our present purpose, however, this
last discrepancy is not very material, since in sanctioning
the allowances for the maintenance of Indian horses no dis-
tinction was made between Kashmir and Cutch horses. Our
calculations thus remain unaffected, whether we follow
Hawkins or Pelsaert.

Though the total expenditure, then, would not be
very different on the basis of the numbers of horses of the
different breeds given by either Hawkins or Pelsaert, the
latter's figures being more detailed inspire greater confi-
dence; and we are perhaps on stronger ground in making our
calculations on their basis.

Among the seven classes into which the horses of the
mangabārs were divided, three, namely, Arabi, Iraqi and
Mujamas, came from Iran and the surrounding region, and one
may therefore take the average of the rates allowed for these
three breeds as applicable to the category collectively designated

¹ Ain, I, p.140.
'Persian' by Hawkins and Pelsaert. There is, of course, no problem of identification involved in the case of 'Turki' or Turkish horses; in the classification given in the Ain, they constitute a separate class. The two classes of superior Indian breeds were Yabu and Tazi. We may take Pelsaert's 'Cutch horses' to correspond to the Yabu and Tazi categories. The rates allowed for jangle may be applied to the remaining categories (210 'Sind' horses and 120 'Mares') listed by Pelsaert.

Taking the rates on the different breeds as outlined above, and enhancing them by 20%, to convert the rates on mansabārs' horses into those on Imperial horses, we get the following figures:

<table>
<thead>
<tr>
<th>Breed</th>
<th>Rates per month in dams</th>
<th>Number of Horses (Pelsaert)</th>
<th>Total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persian</td>
<td>784</td>
<td>3,200</td>
<td>25,08,800</td>
</tr>
<tr>
<td>Turkish</td>
<td>576</td>
<td>5,970</td>
<td>34,38,720</td>
</tr>
<tr>
<td>Cutch</td>
<td>432</td>
<td>2,540</td>
<td>10,97,280</td>
</tr>
<tr>
<td>Sind &amp; Mares</td>
<td>288</td>
<td>330</td>
<td>95,040</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>71,39,840</strong></td>
</tr>
</tbody>
</table>

1. The use of word Tazi (lit. Arab horse) for an Indian breed which judging from the sanctioned allowances was not of the most superior Indian breed either (since the allowance for 'Yabu', is higher) is a little puzzling. It is a pity that these problems regarding breeds of horses have not yet been elucidated in any modern work.
Converted into expenditure per annum, the expenses on the Imperial horses should have amounted to 0,56,78,080 dāns.

**ELEPHANTS**

The Imperial elephants were divided on the basis of their physical characteristics and age into seven classes, viz., maqṣ, shergir, sadq, karraḥ, panjhol, phunderkiya and muwaki. Female elephants constituted a separate class.¹

While the same kind of fodder was allowed for all the elephants except the khaṣa elephants (deemed to be the Emperor's "personal" animals), the quantity varied from class to class. The number of attendants allowed too differed for various classes.² The data in the *Aīn* enable us to calculate the expenditure on fodder and attendants for each elephant under all the classes. But while Abūl Fazl describes the elephant trappings at length, he does not specify the cost of all the items.³ Only the minimum cost of trappings can, therefore, be calculated.

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¹ *Aīn*, I, p. 133.
The following table gives the average expenditure on diet, servants and the minimum amount for trappings, for elephants belonging to the seven classes of teeth elephants and four classes of female elephants.

<table>
<thead>
<tr>
<th>Elephant</th>
<th>On Diet</th>
<th>On Servants</th>
<th>On Harness</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mast</td>
<td>891</td>
<td>887</td>
<td>213.5</td>
<td>1961.5</td>
</tr>
<tr>
<td>Shergir</td>
<td>756</td>
<td>778</td>
<td>213.5</td>
<td>1717.5</td>
</tr>
<tr>
<td>Sada</td>
<td>621</td>
<td>662</td>
<td>213.5</td>
<td>1466.5</td>
</tr>
<tr>
<td>Manjhola</td>
<td>540</td>
<td>550</td>
<td>136.0</td>
<td>1226.0</td>
</tr>
<tr>
<td>Karraah</td>
<td>441</td>
<td>437</td>
<td>136.0</td>
<td>1014.0</td>
</tr>
<tr>
<td>Phumdkkiya</td>
<td>324</td>
<td>265</td>
<td>81.5</td>
<td>670.5</td>
</tr>
<tr>
<td>Musakkil</td>
<td>216</td>
<td>215</td>
<td>81.5</td>
<td>512.5</td>
</tr>
</tbody>
</table>

Average 1219.76

Female Elephants

<table>
<thead>
<tr>
<th>Elephant</th>
<th>On Diet</th>
<th>On Servants</th>
<th>On Harness</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kalan</td>
<td>522</td>
<td>355</td>
<td>77.5</td>
<td>954.5</td>
</tr>
<tr>
<td>Miyana</td>
<td>414</td>
<td>298</td>
<td>77.5</td>
<td>789.5</td>
</tr>
<tr>
<td>Khurd</td>
<td>265.5</td>
<td>172.5</td>
<td>77.5</td>
<td>515.0</td>
</tr>
<tr>
<td>Musakkil</td>
<td>145.8</td>
<td>172.5</td>
<td>77.5</td>
<td>395.8</td>
</tr>
</tbody>
</table>

Average 663.7

1. The grain-fodder (dára) has been converted at the rate of 12 dáms per man (Aín, I, p.176).

2. Among the articles included in the harness, Blockmann's text and Br. Mus. MSS 6552 give 'one man of grain-fodder and 10 bars of iron' (yak man dára-o-dih ser abn). The mention of grain-fodder is curious and quite out of context here. Br. Mus. MS. Add 7652, however, gives 'one man, 12 bars, iron' (yak man-o-dezdih sir abn). I have accepted this reading, which certainly appears more reasonable. It seems that the scribe of some early MS misread dára-o-dih for dezdih. Incidentally, one here gets the price of iron, which is fixed at 2 dáms per man (Aín, I, p.138).
To work out the Imperial expenditure on elephants, we should now have the number of elephants belonging to each class.

Abul Fazl says that there were 5,000 Imperial elephants in all, each having a separate name. This accords with the number of 5,000 mentioned by Monserrate for the Imperial elephants. According to Firishta, while the number of Imperial elephants under Akbar was never below 5,000, it never exceeded 6,000 either. Pelserert gives a little higher figure, viz., 6,751. Unluckily, no breakdown according to classes is provided in any of these sources. Abul Fazl and Pelserert agree, however, on the number of the khāsa elephants only: Abul Fazl has 101, and Pelserert 100 (the latter describing them as elephants of extraordinary beauty and excellence).

It seems reasonable to accept the lower figure of 5,000 given by Abul Fazl for the total number of elephants

1a. Monserrate, p.89.
and the figure of 101 for the khāsa elephants. Since we have no means of finding out the number of elephants in each of the 7 classes listed by Abūl Fāżl, it is not possible to compute the expenses incurred on the Imperial elephants with any degree of exactitude. However, to get a rough estimate, we may assume that the number of male elephants was equal to that of female elephants. This assumption seems fair keeping in mind the preference for tuskers and the more powerful male elephants which were better suited for war purposes. We may make a further assumption that the ordinary male elephants were evenly divided into all the classes and so work out the total amount of expenditure. It is not possible with the data provided by Abūl Fāżl to work out the cost of maintenance of a khāsa elephant. Nevertheless, it will not be far wrong to assume that the expenses on a khāsa elephant could not have been less than 10% higher than those on a māsī elephant.

Proceeding on the basis of these assumptions, the monthly Imperial expenditure on elephants may be calculated as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khāsa elephants</td>
<td>101 x 2,157.45 = 2,17,900</td>
</tr>
<tr>
<td>Male</td>
<td>2,450 x 1,219.76 = 29,384,12</td>
</tr>
<tr>
<td>Female</td>
<td>2,450 x 663.7 = 1,62,6065</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48,32,377 damā/month</strong></td>
</tr>
</tbody>
</table>
Since we have taken into account only a part of the expenditure on trappings and have assumed a rather inferior composition for the Imperial elephants than what could have been actually the case, our total figure represents the lower limit for the expenses incurred on the Imperial horses.

The minimum expenditure per annum would then be 579,88,524 dāns, which amounts to 1.43 % the jama' of the Empire.

CAMELS

The other transport animals in the Imperial stables were camels, mules and oxen. Camels were used as courier-animals along with horses.¹ Though the Ain gives a fairly detailed account of expenditure on these animals, it is silent about their numbers. Pelsaert, while offering an inventory of Jahangir's inheritance, gives the numbers of camels, mules and oxen as well. According to him there were 6,223 camels in Akbar's stables.²

As in the case of horses, it seems difficult to work out the average expenditure on a camel in the Imperial stables.

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1. Ain, I, p.146.
2. Pelsaert, pp.34-5.
The quantity of grain-fodder (dāna) allowed, varied according to the breed and age of the camel. The camels were divided into strings or qatārā of 5 camels each; each qatār was under the charge of a sārbān (camel-driver). Abul Fazl gives four rates for sārbān without specifying the number in each grade. Over the sārbān were placed bistonanyids (having charge of 5 qatārā and 4 sārbān), the panjahi (commanding 10 qatārā and 9 sārbān), and the pānsādī (having 100 qatārā and 99 sārbān under him). The bistonanyids and the panjahīs were under the pānsādī.¹ Again the numbers of these officials are not given though their salaries are recorded. The pānsādīs were usually pānsabdāra.²

The rates given here seem to be those worked out when the sar had the weight of 28 dāma. The quantity of grain-fodder is mentioned expressly in terms of a sar of 28 dāma, but Abul Fazl says that these quantities were changed when the weight of the sar was raised to 30 dāma. The revised quantities are, however, not given.³ This suggests that the amounts mentioned here are to some extent out-dated. This impression

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2. Ibid., p.149.
3. Ibid., p.147.
is further strengthened by the Ain's own admission that the amounts sanctioned for the harness of camel were so outdated that the contractors were incurring losses, and these were therefore allowed to be calculated according to the prices prevailing at the time.¹

It is then not safe to estimate the Imperial expenditure on camels on the basis of data provided in the Ain. But allowances sanctioned for mansabdār's animals could again provide us with a basis for estimating the expenditure on Imperial camels.

The grain-fodder allowed to a full-grown Indian camel (lok) in the Imperial stables was 7 sera a day (7½ sera in terms of ser of 28 dam-weight) and 2 to 1½ dams a day for hay for 8 months in a year.² The mansabdār's camel was allowed daily 6 sera of dāna and 1 dām for hay.³ The average salary of a sārban employed in the Imperial stables was 63 dāna a month;⁴ the mansabdār were given 60 dāna a month for the sārban, the only attendant allowed.⁵ In this way the Imperial

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2. Ibid., p.147.
3. Ibid., p.178.
4. Ibid., p.149.
5. Ibid., p.178.
expenditure on these three essential heads works out at 161 dānas a month, while the corresponding figure for the mansabdāra' camel was 144 dānas: the Imperial expenditure on these heads was therefore about 12½ (11.81%) higher than the amount sanctioned to the mansabdāra. The expenditure on the salary of the other officials, viz., bistopandi, panjahi and rāhibari (trainer) etc., was in addition to this, the mansabdāra not being allowed any functionaries corresponding to these officials.

We would, therefore, not perhaps be far wrong in assuming that the Imperial expenditure on a camel was at least 15% higher than that allowed to the mansabdāra.

Pelsaert tells us that out of the 6223 Imperial camels 523 were dornatae (single-humped camels) and the remaining 5700 were 'camels of this country'.

The amount sanctioned for the maintenance of a mansabdāra's camel was 240 dānas a month. Enhancing it by 15% we get 276 dānas. If we further assume, rather arbitrarily, that the expenditure on the 'dornatae' camel was 20% higher than the allowance sanctioned for the ordinary camel to the

We can attempt the following estimate of monthly expenditure on Imperial camels:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Rate per Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Dormatae'</td>
<td>523 x 238</td>
<td>578</td>
<td>1,50,624</td>
</tr>
<tr>
<td>Other camels</td>
<td>5,700 x 276</td>
<td>578</td>
<td>15,73,200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>17,23,824</td>
</tr>
</tbody>
</table>

This gives us an expenditure amounting to 2,06,85,838 dāmas per annum.

**OXEN**

The oxen in the Imperial establishment were classified on the basis of their functions. The quality and quantity of diet allowed were in accordance with this classification. The quantity of grain-fodder allowed was between 5 and 6½ sars; 1 to 1½ dāmas were given daily for hay.

The wage sanctioned for the herdman was 4 dāmas a day. But 18 of them were allowed the higher rate of 5 dāmas. In the khesa stables one hersman was charged with the care of 4 oxen; in other stables one was allowed for six.  

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1. Ain, I, p.147.  
On the basis of these data, the average expenses upon each ox in the Imperial stables work out at 107 đāms a month. The amount allowed to the mansabdār for an ox was 120 đāms a month; though no allowance was made for the herdsman and the amount given for grain fodder and hay was only 66 đāms a month, as against 87.5 đāms allowed in the Imperial stables for the same items.

The rates allowed to the mansabdār were higher probably on account of the two increments, one of 38 đāms\(^1\) and the other of 10 đāms a month which were apparently given to keep up with the change in prices between the 18th and the 39th regnal years.

In so far as the amounts sanctioned in the case of Imperial stables, do not include such enhancements, they would seem to relate to an earlier date. As we have seen they were fixed when the ser was of 28 đām-weight\(^2\) and on the ḡāna's own administration were low and out of date.\(^3\)

To make the rates applicable to the 40th regnal year we may then allow the same enhancement in the case of Imperial stables.

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rates for oxen: This would mean a sum of 155 dāms a month for
the average expenditure on an ox in the Imperial stables.

Pelsaert's figure of 7,000 for oxen belonging to
the Imperial stables seems reasonable, for the A'in says that
600 carts (arıba) were employed to fetch fuel for the Imperial
kitchen and 200 to transport material for the building estab-
lishment. Since Abul Fazl tells us further, one cart
required four oxen, at least 3,200 oxen had to be employed
on those 800 carts alone; and there must have been other
demands upon oxen, and the need to keep a number of them in
reserve, so that the figure of 7,000 is by no means excessive.

Since Pelsaert does not offer any break-down of the
breeds of oxen, we can only estimate the Imperial expenditure
on oxen by applying the rate worked out by us (viz., 155 dāms)
uniformly to all the 7,000 oxen. This gives us \((7000 \times 155 \times 12)\)
1,302,000 dāms per annum.


2. For example, many oxen must have been needed for pulling
the guns of the artillery of the Stirrup (A'in, I, 119).
MULES

The Ain suggests that mules in the Imperial stables were native bred as well as imported. The amount spent upon them varied according to whether they were indigenous or foreign. Pelsaert does not follow this or any other classification while giving the number of mules. In any case, the number of mules given by him is so small (260) that an attempt to compute the expenditure on them on the basis of the detailed data in the Ain, would seem to be an unnecessary refinement, especially when a simpler mode of calculation is available.

Abul Fazi says that in fixing the allowance paid to the mansab-dars for animals kept by them, mules were reckoned formerly as equal to Tazi horses but now only as equal to jangla horses. On this basis we may apply the rate for a jangla horse in the Imperial stables as calculated by us (viz. 264 dāma a month).

The annual expenditure on mules by the Imperial administration would then come to (260 x 264 x 12 =) 8,23,680 dāmas per annum.

1. Ain, I, p. 179.
COSTS OF PURCHASES

In addition to the cost of maintenance, the total Imperial expenditure on animals should have also included the amounts spent on their purchase. The information on this matter is so scarce that only a very tentative estimate can be attempted.

Abūl Faẓl tells us that the merchants brought horses to the court from various countries; droves upon droves were brought from Iran and Central Asia. From Abūl Faẓl's description it appears that commerce in horses was conducted at least partly under State control. A place was assigned, where except for a few trusted or privileged merchants, all the horse dealers were required to stay along with their horses; and an official, designated amīn-i kārvānāsārā, was appointed to keep a watch over them. Clerks were employed to keep records and experienced men to determine prices. From Monserrate's account, it transpires that in spite of all these controls and restrictions, there was no State monopoly and the horses were sold through open auctions. The price-money was counted in public to avoid any 'suspicion of

1. Ain, I, p.140.
2. Ibid., p.141.
oppression. The Emperor, or rather his officials, purchased horses in the same manner as private bidders.

To compute the amount spent on the purchase of horses we should know the number of horses bought by the Emperor in a year as well as the price of each of them. This information is not directly available. However, we may resort to indirect means to build up an estimate.

The normal life span of a horse in India was held to be 30 years; but its working life, according to a 17th century source, was 12 years. Assuming that all the horses in the Imperial stables when purchased were in their prime and that they thus spent no less than 12 years in the Imperial stables, one would have to infer that at the very least, 1/12 of the total strength of the horses needed to be replaced every year. If the horses, on the average, spent less than 12 years in the Imperial stables, as is rather more likely (being perhaps given away in gifts when they were past

3. Anonymous, Farasānama (MS, Maulana Azad Library, AMU, Subhanullāh Collection, 616/3, p.3). It seems to be written in the 17th century since it refers to Jahāngīr as Jāmānat-Makānī; the use of this posthumous title suggests proximity to the reign.
their prime), the proportion replaced every year should have been higher. On the other hand, the court received a number of horses in gifts and offerings, without having to pay anything. In the net, therefore, probably the horses purchased every year might be deemed to have amounted to about a twelfth of the total. We would still be ignoring mortality in wars; but possibly by 1595-6, Imperial horses were seldom involved in actual fighting. Since, as we have seen Akbar's stables are said to have contained about 12,000 horses, the number annually purchased should have been about 1,000.

In order to use this figure for making an estimate of the actual amount spent in purchasing horses, one would need information on prices the different kinds of horses fetched. The A'in rather unhelpfully gives the range of prices of horses as from rupees 2 to 500 muhra. However, since prices of horses too were used as the criterion for the classification of stables we may roughly establish a narrower range of prices actually paid for horses bought for the Imperial stables.

We find that among the Imperial stables there were stables containing dib-muhri as well as haftad-muhri horses.

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1. A'in, I, p.146.
These excluded the kha'isa stables, the stables of the princes, courier-horses and the khamāzāds. This suggests that the prices of the horses in the Imperial stables varied normally from 10 and 70 muhra. Since there seems no means of determining how many horses belonged to the various price-categories, within this range, we can only resort to taking the mean between 10 and 70, namely 40 muhra. This again has a lower bias since one should expect the majority of the Imperial horses to be of superior breeds.

With these assumptions which appear arbitrary but probably err on the lower side, we may compute the annual Imperial expenditure on the purchase of horses as follows:

Since 9 rupees went to a muhr, and a rupee was equal to 40 dāms, the average price of a horse should have been \((40 \times 9 \times 40 = 14,400)\) dāms. The price of 1,000 horses was therefore 1,44,00,000 dāms.

While this or a larger amount of money must have been spent annually on horses, it may be remarked in passing that at least a small part of this expenditure was recovered from stable employees. There were firm regulations about fines to

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1. Aīn, I, p.27.
be imposed on officials and attendants of the stables, in case of the death of a horse in their charge. But the actual amounts so recovered cannot be worked out, and did not probably amount to anything more than a minute part of the prices of horses purchased.

It seems that Akbar's administration did not spend much money on the purchase of elephants. Elephants were either caught in organised hunts, or received in tribute or war booty. We also have evidence that some time the 'land-revenue' too was paid through elephants in Central India.

Abul Fazl provides detailed prices for each breed of camels, but since we do not know the break-down of Imperial camels under various breeds we may again take the unweighted average of these prices. The natural life of a camel was 25 years but their active life was 12 years only. We may suppose that the Mughal administration had to purchase 519

camels annually to maintain a corps of 6,223 camels. Taking 5.5 mubras as the average price, the expenditure on the purchase of camels works out at \((5.5 \times 9 \times 40 \times 519 =) 10,26,795 \text{ dinar per annum.}\)

Though Akbar is said to have bought a pair of oxen at as high a price as Rs. 500, the usual price of an ox, around Delhi was Rs. 10.\(^1\) The active life of an ox too may be assumed to be 12 years.\(^2\) To maintain the strength of 7,000 oxen in the Imperial stables the administration must have had to add 584 (\(= \frac{700}{12}\)) oxen each year. The expenditure thus works out at \((584 \times 10 \times 40 =) 2,33,600 \text{ dinar per annum.}\)

For mules Abul Fazl gives the normal life-span as 50 years, and the price of the most superior one in the Imperial stables as Rs. 100.\(^3\) But neither the average price nor the working life is specified. In any case the number of mules (for which we are indebted to Felsaert) is so trifling (viz. 260) that it would be unnecessarily punctilious to estimate the cost of their purchase. The amount would have

\[^1\text{Ain, I, p.150.}\]
\[^2\text{Watt, V, pp.576, 667.}\]
\[^3\text{Ain, I, p.152.}\]
been so small as hardly to affect the total expenditure on animals in the Imperial stables.

While summing up below the estimates of the annual expenditure on animals in the Imperial establishment, we must underline the unevenness of the quality of data used, which is even more obvious here than in the quantification attempted in respect of other departments of Imperial finance. What one can say in one's defence is that the estimates offered are consistent with the information of the very varied kind that we have, and result in an overall total that does not seem unreasonable.

A. Maintenance

<table>
<thead>
<tr>
<th>Animal</th>
<th>Maintenance Expenses (dāns/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horses</td>
<td>8,56,73,080</td>
</tr>
<tr>
<td>Elephants (minimum)</td>
<td>5,79,88,524</td>
</tr>
<tr>
<td>Camels</td>
<td>2,06,85,888</td>
</tr>
<tr>
<td>Oxen</td>
<td>1,30,20,000</td>
</tr>
<tr>
<td>Mules</td>
<td>8,23,680</td>
</tr>
</tbody>
</table>

Total maintenance expenses (dāns/year) = 17,31,96,172

B. Cost of purchases

<table>
<thead>
<tr>
<th>Animal</th>
<th>Cost of Purchase (dāns/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horses</td>
<td>1,44,00,000</td>
</tr>
<tr>
<td>Elephants</td>
<td>10,26,795</td>
</tr>
<tr>
<td>Camels</td>
<td>2,33,600</td>
</tr>
<tr>
<td>Oxen</td>
<td></td>
</tr>
</tbody>
</table>

Total cost of purchase (dāns/year) = 1,56,60,395

Total annual expenditure on animals (dāns/year) = 19,38,56,567
Arsenal and Armour:

In his chapter on matchlocks, Abûl Fazl says that these were manufactured in the Imperial workshops (kârkhânâ-i khâsa) or were purchased; many also were received as presents. This might have been true also of other weapons and articles of armour. Whatever the extent of material received gratis, through gifts, the expenses incurred on the Imperial arsenal and armour could not have been inconsiderable. Though Abûl Fazl devotes separate chapters to the arsenal, guns and matchlocks, the data given by him are not of much help in estimating the annual expenditure incurred upon them. Fortunately, Pelsaert gives the value of artillery pieces, hand weapons and articles of armour which Akbar left behind at his death. According to his list the cannon, muskets, lead for shot, gun-powder and other munitions of war were valued at Rs.85,75,971; armour, shields, poniards, bows, arrows and similar weapons, at Rs.75,55,525; and gold embroidered cloaks for all kinds of royal armour, at Rs.50,00,000. In treating

1. Ain, I, p.126.
2. Ibid., pp.118-27.
3. Pelsaert, A Dutch Chronicle of Mughal India, p.33.
those values for purposes of calculating actual costs incurred on them, I assume that a scaling down by 20% would first be necessary to give us the actual costs. Since it is obvious from Abūl Fazl's account that the number of weapons given away in gifts was quite large, I have assumed that the costs of presents distributed would compensate for the value of those received in presents. The total value (as scaled down) may be divided by 1225 and the result multiplied by 40 to get the expenditure incurred on arsenal and armour in the 40th R.Y. By this means we may estimate the expenditure on cannon, matchlock etc. at 89,61,015 dārs Abūl Fazl's own account suggests a heavy scale of expenditure. Rather frustratingly, he confesses his inability to give any number for cannon pieces because the pieces especially the gaṭpāl and the narmāl, were "so numerous". In the case of matchlocks, out of "the thousands" manufactured, 105 were selected for Emperor's

2. For reasons behind adopting this mode of calculation see Chapter VIII (for calculation of annual transfer to the Imperial hoard).
3. Ain, I, p.125. But Jahangir (Tuzuk-i Jahāngīrī, p.10) in his first regnal year (1605-6) speaks of his ambition to have 3000 carts in his Artillery (top-khāna). If each gun needed a cast, Akbar must have left behind at least 2000 guns for Jahangir to have aimed at 3000.
personal use (क्षेष) and 31 kept in reserve (कोटल) to replenish the shortage in the number of the क्षेष muskets on account of the Emperor's giving some away and many in presents all the time. One hundred and one matchlocks were kept in the harem.

Similarly, many hand weapons were marked as क्षेष, and quite a few were distributed in presents; the number of the क्षेष swords was 30, those kept in reserve to make-up the shortage (कोटल) amounted to 40. Abul Fazl gives a detailed account of the hand-weapons kept for the Emperor's personal use (क्षेष). In addition to the क्षेष weapons, an entire arsenal used to accompany the Emperor while holding court, on hunting expeditions or other excursions. Though the data provided by Abul Fazl cannot serve as a firm basis for quantification, the numbers and the prices of hand-weapons, given in the अइन, suggest that a total expenditure of 2,20,80,257 राशि per annum, derived from Pelsaert's figures, is not untenable.

1. Owing to the frequency of the presents, 31 kept in full reserve (कोटल) were not deemed sufficient, and 27 more were marked for this purpose in "partial reserve" (निम कोटल), Ibid., I, p.127.
2. Ibid., I, p.127.
3. Ibid., I, p.118.
4. Ibid., I, pp.118-9.
The total annual amount incurred on the Imperial military establishment, c. 1595, may now be summarised as follows:

- Pay of the abadis: 8,10,79,200 dama
- Pay of foot-retainers: 6,00,00,000
- Expenditure on animals: 19,38,56,567
- Expenditure on arsenal & armour: 2,20,80,257

Total: 35,70,16,024

In other words almost 8.805% of the total jama' of the Empire was spent on the maintenance of the Emperor's personal military establishment. The only qualification, that has to be made, is that many of the abadis and some foot-retainers (whose pay forms part of our estimates) worked in various departments of the household, though they drew their salaries from the army-list. Thus at least some of the expenditure on the military establishment was incurred for 'non-military' purposes.

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1. On this see also the concluding paragraphs of Chapter XI.