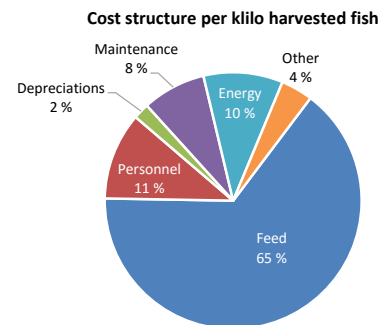


# The easy but difficult solution to fish aquaculture

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The cost of fish farming is the cost per kilo of the harvested fish and *not* the cost of inputs. Cost items should be appraised in combination in the form of the final product – the whole harvested fish.



The cost of feed is the largest cost item in fish farming as it accounts for about 50 – 75% of the total cost of harvested fish. The share being dependent on species, production environment, genetics and technology.

On a high level the cost of feed of harvested fish is determined by the cost of feed and the feed conversion ratio (FCR). The feed cost opportunity set can be as illustrated by the matrix below. It is quite obvious where you want to be - in the lower right corner. However, assuming there is a relation between feed price (=quality) and FCR the realistic opportunity set excludes the shaded area.

|          |     | 17,50 % | 15,00 % | 12,50 % | 10,00 % | 7,50 % | 5,00 % | 2,50 % | 0    | -2,50 % | -5,00 % | -7,50 % | -10,00 % | -12,50 % | -15,00 % | -17,50 % |
|----------|-----|---------|---------|---------|---------|--------|--------|--------|------|---------|---------|---------|----------|----------|----------|----------|
|          |     | 2,00    | 1,96    | 1,91    | 1,87    | 1,83   | 1,79   | 1,74   | 1,70 | 1,66    | 1,62    | 1,57    | 1,53     | 1,49     | 1,45     | 1,40     |
| 17,50 %  | 740 | 1,48    | 1,45    | 1,42    | 1,38    | 1,35   | 1,32   | 1,29   | 1,26 | 1,23    | 1,20    | 1,16    | 1,13     | 1,10     | 1,07     | 1,04     |
| 15,00 %  | 725 | 1,45    | 1,42    | 1,39    | 1,35    | 1,32   | 1,29   | 1,26   | 1,23 | 1,20    | 1,17    | 1,14    | 1,11     | 1,08     | 1,05     | 1,02     |
| 12,50 %  | 709 | 1,42    | 1,39    | 1,36    | 1,33    | 1,30   | 1,27   | 1,23   | 1,20 | 1,17    | 1,14    | 1,11    | 1,08     | 1,05     | 1,02     | 0,99     |
| 10,00 %  | 693 | 1,38    | 1,35    | 1,33    | 1,30    | 1,27   | 1,24   | 1,21   | 1,18 | 1,15    | 1,12    | 1,09    | 1,06     | 1,03     | 1,00     | 0,97     |
| 7,50 %   | 677 | 1,35    | 1,32    | 1,30    | 1,27    | 1,24   | 1,21   | 1,18   | 1,15 | 1,12    | 1,09    | 1,06    | 1,04     | 1,01     | 0,98     | 0,95     |
| 5,00 %   | 662 | 1,32    | 1,29    | 1,27    | 1,24    | 1,21   | 1,18   | 1,15   | 1,12 | 1,10    | 1,07    | 1,04    | 1,01     | 0,98     | 0,96     | 0,93     |
| 2,50 %   | 646 | 1,29    | 1,26    | 1,23    | 1,21    | 1,18   | 1,15   | 1,13   | 1,10 | 1,07    | 1,04    | 1,02    | 0,99     | 0,96     | 0,93     | 0,91     |
| 0        | 630 | 1,26    | 1,23    | 1,20    | 1,18    | 1,15   | 1,12   | 1,10   | 1,07 | 1,04    | 1,02    | 0,99    | 0,96     | 0,94     | 0,91     | 0,88     |
| -2,50 %  | 614 | 1,23    | 1,20    | 1,17    | 1,15    | 1,12   | 1,10   | 1,07   | 1,04 | 1,02    | 0,99    | 0,97    | 0,94     | 0,91     | 0,89     | 0,86     |
| -5,00 %  | 599 | 1,20    | 1,17    | 1,14    | 1,12    | 1,09   | 1,07   | 1,04   | 1,02 | 0,99    | 0,97    | 0,94    | 0,92     | 0,89     | 0,86     | 0,84     |
| -7,50 %  | 583 | 1,16    | 1,14    | 1,11    | 1,09    | 1,06   | 1,04   | 1,02   | 0,99 | 0,97    | 0,94    | 0,92    | 0,89     | 0,87     | 0,84     | 0,82     |
| -10,00 % | 567 | 1,13    | 1,11    | 1,08    | 1,06    | 1,04   | 1,01   | 0,99   | 0,96 | 0,94    | 0,92    | 0,89    | 0,87     | 0,84     | 0,82     | 0,80     |
| -12,50 % | 551 | 1,10    | 1,08    | 1,05    | 1,03    | 1,01   | 0,98   | 0,96   | 0,94 | 0,91    | 0,89    | 0,87    | 0,84     | 0,82     | 0,80     | 0,77     |
| -15,00 % | 536 | 1,07    | 1,05    | 1,02    | 1,00    | 0,98   | 0,96   | 0,93   | 0,91 | 0,89    | 0,86    | 0,84    | 0,82     | 0,80     | 0,77     | 0,75     |
| -17,50 % | 520 | 1,04    | 1,02    | 0,99    | 0,97    | 0,95   | 0,93   | 0,91   | 0,88 | 0,86    | 0,84    | 0,82    | 0,80     | 0,77     | 0,75     | 0,73     |

How to get to where you want to be – in this example at a feed cost of Usd 1,04? The easy but difficult solution is to go for the most expensive feed and an FCR of 1,40, or accept a poor FCR of 2,00 compensated by a cheap (and low quality) feed. The difficult part is to manage and balance all the factors that plays together and finally makes up the cost per kilo of harvested fish. Below is the decision tree:

