12. Potential constraints in fish meal production

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- Highly degradable nature of proteins and lipids causes protein breakdown into oxidized compounds and biogenic amines (Especially histamines). Adequate processing is required in order to avoid the same.
- Optimum moisture content avoids development of bacteria. Cooking step in fish meal production above 80 degree Celsius destroys bacteria but there are chances of re-infection through whole chain process.
- Elimination of external sources of contamination is essential along with maintaining the premises dry and clean.
- Chemical contamination of fishmeal with harmful substances (chlorinated hydrocarbons) due to accumulation of those anthropogenic substances in marine food chain and finally in fatty tissues of fish used for manufacture of fish meal is possible.
- A toxic substance called gizzerosine is formed when fish meal is directly dried at 180°C (vs. 140°C) in order to improve fish meal productivity. Gizzerosine is detrimental to poultry as it causes gizzard erosion and black vomit. It can be avoided if steam is used to dry fish meal.
- With overexploitation of Worlds marine fish, aquaculture is main

sources of fish production.

- Seafood processing waste can be used as a source of feed for fish either in the form of bait or in the form of fish meal as a feed in aquaculture practices.
- Environmental problems caused by nitrogen and phosphorus from fish farming will need minimization through production of highly digestible fish meal.