

Cultured meats' - An Overview of Key Indirect Tax & Regulatory Aspects in India

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"A new space race for the future of food is underway"^[1]

- Bruce Friedrich (Executive Director, Good Food Institute)

"We think that [the way] to really solve the meat problem – which is a health problem, a deforestation problem, a morality problem – is to make animal protein"^[2]

- Josh Tetrick (CEO, 'Eat Just', Singapore)

Background

Globally, there is increased awareness today about the heavy environmental impact of rearing of animals for conventional meat and meat products. Given that, *"every year, 50 billion chickens, 1.5 billion pigs and over 100 million tonnes of seafood are killed to feed a growing, increasingly wealthy human population"*^[3], the ethical debate arising out of arguments based on animal cruelty are also gaining ground.

It is in this backdrop that alternate sources to replicate the overall experience of consumption of meat/meat-based dishes have come into focus in the last couple of years – significant investments are now flowing into research, development, marketing and delivery of such alternate products. Two key types of alternate products dominate the discourse in this regard – (i) 'plant-based meat/ dairy products'; and (ii) 'Cultured' or 'Cultivated' meats. This article focusses on the latter.

What is 'Cultured' meat

'Cultured' meat is also referred to as healthy meat, slaughter-free meat, in-vitro meat, vat-grown or laboratory-grown meat, cell-based meat, clean meat, cultivated meat and synthetic meat.

"Cultured meat is made by putting stem cells from the fat or muscle of an animal into a culture medium that feeds the cells, allowing them to grow. The medium is then put into a bioreactor to support the cells' growth."^[4] Cultured meat strives to be similar to the flavour, texture and other characteristics of animal flesh. However, it is not to be confused with plant-based meat.

As per media reports, various research agencies estimate that a switch to 'cultured' beef would reduce land use by 95%, climate change emissions by 74% to 87% and nutrient pollution by 94%. 'Cultured' Chicken meat will need 35% to 67% less land and would lessen nutrient pollution by 70%^[5]. These staggering projections have led to a lot of interest and innovation in the 'Cultured' meat space.

Singapore has granted its first approval in the 'Cultured' meat space. But authorities in countries like the US are wary – not only because of the proverbial 'fear of the unknown' but because of the foreseeable push back from the dairy/cattle lobby^[6]. Even in India, debates have erupted as to whether the word 'milk' can be used for plant-based products like 'almond milk' etc. However, there cannot be any doubt that these alternatives to animal meats/dairy are here to stay, and in fact gain significance with the passage of time.

'Disruption' in food industry is now a reality.

It is thus pertinent to have a broad overview of the key tax and regulatory implications apropos 'Cultured' meats. This has been discussed below under the following sub-topics: implications under food safety regulations and implications under indirect tax laws.

Implications under food safety regulations

The Food Standards and Safety Act, 2006 and the Rules and Regulations issued thereunder inter alia lay down the law for regulating manufacture, storage, distribution, sale and import of articles of food. Under this framework, the Food Safety and Standards (Health Supplements, Nutraceuticals, Food for Special Dietary Use, Food for Special Medical Purpose, Functional Food, and Novel Food) Regulations, 2016 (Novel Food Regulations) have been issued to regulate a wide variety of innovative food items.

The Novel Food Regulations define 'novel foods' at length and the extract below^[7] paraphrases the definition and the key regulatory aspect aptly:

"(Novel Food Regulations) defines novel foods as foods that (a) may not have a history of human consumption; (b) may not have an ingredient in it that has a history of human consumption; (c) are obtained through new technology which give rise to significant change in the composition, structure or size of the food which may alter nutritional value, metabolism or the level of undesirable substances.

The Novel Food Regulations require the approval of the Food Safety and Standards Authority of India (FSSAI) for novel foods to be manufactured or sold in India. The procedure for application and details of the safety assessment are encapsulated in the [Food Safety and Standards \(Approval of Non-Specified Food and Food Ingredients\) Regulations, 2017](#)'

Hence, manufacturers of 'cultured' meat in India would require specific approval of FSSAI before embarking upon the process of production. Such approval from FSSAI may be guided by the international regulatory practices and experiences in this regard – Singapore has been 'first-off-the-block' in this regard^[8].

Packaging and labelling requirements: The manufacturers of 'cultured' meat will also need to comply with the Food Safety and Standards (Packaging) Regulations, 2018 (Packaging Regulations). While the Packaging Regulations do provide the packaging protocols for meat and meat products, it would be necessary to have complete clarity from the regulator as to whether the same will also apply to 'cultured' meat.

Further, the packaged 'cultured' meat needs to adhere to Food Safety and Standards (Labelling and Display) Regulations, 2020 as well. In this regard too, the FSSAI may be guided by the Singapore regulations where such products *"will be required to label the product packaging with qualifying terms such as "plant based" or "cultured" to indicate their true nature, so that consumers can make informed decisions when deciding whether to consume these products"*^[9].

Implications under indirect tax laws

The United Nations' Intergovernmental Panel on Climate Change (IPCC) estimates that human populations have time till 2030 to prevent global temperatures rising by 1.5°C, beyond which the worst impacts of climate change, such as severe droughts, floods, and consequent surges in the flow of climate refugees, increase substantially^[10]. Given the sheer size of their populations, dietary choices of people in India and China in the coming days will be crucial in this fight against global warming.

In that backdrop, the Indian government ought to consider pro-active measures to encourage large scale production of 'cultured' meat (may be even under the 'Make in India' or 'Start up India' initiatives). After all, *"while Indians consume much less meat than Western populations per capita, manoeuvring rising demand away from animal-based proteins towards more sustainable, healthier meat alternatives at an early stage has merit"*^[11]. Indirect tax concessions, or at the very least, certainty of indirect tax positions will go a long way in this regard.

Bioreactor is the most critical machine required for production of cultured meat. A bioreactor is *"an apparatus for growing organisms (yeast, bacteria, or animal cells) under controlled conditions"* and have been *"used in industrial processes to produce pharmaceuticals, vaccines, or antibodies" or for "bioconversion of corn into ethanol"*^[12]. *"The entire process of cultivated meat production takes place in a bioreactor, from start (seed culture) to finish (harvesting an intact piece of meat)."*^[13] Simply put, bioreactors are large machines similar to brewery tanks which expose the original animal cells to a large variety of environmental factors that are necessary to promote either proliferation or differentiation.

The first indirect tax issue that arises is the correct classification and customs duty rate of bioreactors.

Customs classification for import of bioreactors required for production of cultured meat : Reference in this regard may be made to the following Customs Tariff headings which could be relevant for the purposes of classification of bio reactors:

Tariff Heading	Description	Effective Rate of Basic Customs Duty
84198910	Pressure vessels, reactors, columns or towers or chemical storage tanks	7.5% ^[14]
84198960	Plant growth chambers and rooms and tissue culture chambers and rooms having temperature, humidity or light control	7.5%
84385000	Machinery for the preparation of meat or poultry	5% ^[15]
84792090	Other machinery for the extraction or preparation of animal or fixed vegetable fats or oil	7.5%
84798999	Other machinery having individual functions not specified or included elsewhere	7.5%

In light of the multiple possible tariff entries, it would be ideal if the government issues a specific clarification apropos correct classification of bioreactors for production of 'cultured' meats – sans such clarification, one may have to seek expert advice before importing bioreactors and this may even lead to avoidable disputes at a later stage.

GST on supply of cultured meat: It appears that there is no specific entry in the HSN classification system which covers 'cultured' meat. The same is likely to be classifiable under residuary tariff heading 21069099 – 'Food Preparations not specified elsewhere' and subject to GST @ 18%^[16]. Reference in this regard can be placed on the following customs advisory from USA^[17] – while this was in the context of a 'plant-based meat' product, similar principles may apply for 'cultured meat' too.

"An ingredients breakdown for Quorn brand Vegan Beef Style Burger (A02690) and samples of the retail packaging for similar Quorn brand products were submitted with your letter. The Vegan Beef Style Burger is an imitation meat product based on "mycoprotein", a meat free protein. The Vegan Beef Style Burger is composed of mycoprotein, textured wheat protein, water, onions, potato protein, sunflower oil, rusk, palm oil, natural flavoring, salt, sugar, tapioca starch, sodium alginate, smoked paprika, pectin, potato maltodextrin, barley malt extract, smoked yeast, potassium chloride, smoke flavorings, citric acid, gum arabic, silicon dioxide and tricalcium phosphate. The burgers will be imported in frozen condition and packed for retail sale in containers holding 240 grams.

The **applicable subheading for the Vegan Beef Style Burger (A02690) will be 2106.90.9995**, Harmonized Tariff Schedule of the United States (HTSUS), which provides for **food preparations not elsewhere specified or included...other...other...other...frozen.**"

As against this, traditional/carcass-based meats are either exempt from GST or taxable at a lower rate of 5% or 12% as the case may be. The aforesaid rate arbitrage could probably be due to the fact that 'cultured' meat is still not produced in a large enough scale in India to catch the attention of the policy makers.

Concluding thoughts

In light of the environmental benefits and ethical considerations associated with cultured meat, there is certainly a case for review and consideration by the concerned authorities to evaluate bringing the effective indirect tax rates for the 'cultured' meat supply chain at par with the conventional meat and meat products, if not lower.

Even on the regulatory front, given the massive potential market in India (as well as abroad), policymakers and regulators ought to take a leaf out of Singapore and plan pro-actively ahead to be a frontrunner in this sector in the next five years.

[1] Quoted from the CNBC news article available at <https://www.cnbc.com/2020/12/01/singapore-issues-first-regulatory-approval-for-lab-grown-meat-to-eat-just.html>

[2] *Ibid*

[3] From the article "Overview - Regulatory Issues surrounding cultivated meat" by *Ikigai Law*, available at <https://www.ikigailaw.com/overview-regulatory-issues-surrounding-cultivated-meat/#acceptLicense>

[4] See *supra*, footnote 1

[5] Quoted from article published on Pure & Eco India at <https://www.pureecoindia.in/meaty-gains-expected-in-cultivated-meat-market/>

[6] *Ibid*

[7] Quoted from *ibid*

[8] "The Singapore Food Agency ("SFA") has issued a Guidance Document dated November 22, 2019 (which was updated in November 2020) ("SFA Guidance Document") with specific guidelines for cultivated meat" - Quoted from *ibid*

[9] Quoted from *ibid*

[10] Excerpted from "Is India Ready for Alt-Meat? Preferences and Willingness to Pay for Meat Alternatives" by Rashmit S. Arora; Daniel A. Brent and Edward C. Jaenicke - downloadable from <https://www.mdpi.com/2071-1050/12/11/4377>

[11] Quoted from *ibid*

[12] Excerpts from <https://www.engr.colostate.edu/CBE101/topics/bioreactors.html>

[13] Quoted from footnote 1, *supra*

[14] Sl. No. 451A of Customs Notification No. 50/2017 - Cus dated 30-Jun-2017

[15] Sl. No. 458 of Customs Notification No. 50/2017 - Cus dated 30-June-2017

[16] Sl. No. 23 of Schedule III of Rate Notification No. 1/2017 - Central Tax (Rate) dated 28-June-2017

[17] This advisory can be perused in entirety at https://www.customsmobile.com/rulings/docview?doc_id=NY+N161503