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*Corresponding author

Dustin Tahisin Gómez Rodríguez,
Universidad de la Salle, Bogotá
Colombia

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Opinion

Social Metabolism a Multidisciplinary Approach to Respond Socio-Environmental Issues in the 21st Century

Dustin Tahisin Gómez Rodríguez*

Universidad de la Salle, Bogotá Colombia

Opinion

The transformations that have occurred since the industrial revolution in ecosystems as well as in the human social fabric and conventional economics have contributed to the problems of the 21st century. These include climate change, the greenhouse effect, the extinction of flora and fauna, the inequitable distribution of income, as well as the empowerment of reductionist and deterministic categories such as "market", "individualism", "competition", etc. Hence, it is necessary to use other categories and concepts as mathematical instruments that can provide solutions to these problems because to continue with them is to contribute to the above [1]. One of them is the multidisciplinary approach called Social metabolism. In general terms, Social Metabolism seeks to analyze how to qualitatively and quantitatively measure the exchange of materials and energy between a social group, a territory, and natural capital. Indeed, the dialogue between humans and nature is socio-ecological and all human actions result in an environmental cost and are not situated in an ontological vacuum [2-4]. Therefore, this review is about the doctoral thesis entitled: Social metabolism of the oil palm agroindustry in the territory of Aracataca Magdalena (1965-2018) which was carried out from 2017 to 2022 in the doctorate of Agro sciences of the Universidad de la Salle in Bogotá Colombia and had as thesis director Dr. Jaime Alberto Rendón Acevedo. This brief review is a synthesis of the findings identified in the exchange of energies and materials between the oil palm agroindustry and the territory as the territoriality of the municipality of Aracataca Magdalena in the period 1965 to 2018. From a qualitative point of view, it was possible to identify that in the period studied unemployment grew, that there is precariousness in the productive apparatus of the territory, but above all that there is a social fabric fragmented by the illegal groups that are in the territory and that this has contributed to inequality as well as social injustice and a constant fear of violence on the part of the residents of the territory of Aracataca Magdalena Colombia. Likewise, there are socio-environmental problems in the procurement of water between the agro-industry and the residents of the territory [5-15]. Quantitatively, in the years identified, such as 1968, 2002 and 2018, the appropriation as a category of the first stage of the Social Metabolism of biomass increased 94 times and the energy flows of heat given off increased both in the field workers and in the workforce of the Extraction Plant. The data specified that for the year 1968 the heat released by the field employees of the agro-industry was 1.08 GBTU. The heat given off by an agro-industry field worker for the years 2002 and 2018 was 891,563.6 BTU/h and the heat given off by a worker in an agro-industry Extractor in the years 2002 and 2018 was 1337354.1 BTU/h. Likewise that between 2002 and 2018 the heat given off per year in the field was 120361869 (BTU/year) [16-22].

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