Sustainable Pharmacy of the Future Klaus Kümmerer, Leuphana University Lüneburg

Undoubtedly, pharmaceuticals are indispensable for our health and well-being and a backbone for our high living standard. However, there is also a backside of the coin that receives more and more attention - also within the framework of circular economy and the United Nation's Sustainable Development Goals (SDGs). The synthesis of pharmaceuticals for example results in 10-100-fold amount of waste compared to bulk chemicals corresponding to a similar usage of resources. Pharmaceuticals are present in the environment despite (advanced) effluent treatment. Sustainable pharmacy together with sustainable chemistry address these challenges by improving synthesis, using less resources, providing better training of health professionals and patients, developing environmentally biodegradable pharmaceuticals and applying alternative business and service models. Thereby it will contribute to a circular economy as well as creating new business opportunities.

