# Role of Physical Activity in the Development of National Goals: Systematic Review

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#### Abstract:-

Introduction: Physical activity (PA) appears to be one of the most used buzzwords when it comes to viable means to improve health and prevent diseases across all age groups. The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. The Sustainable Development Goals build on decades of work by countries and the United Nations, including the Affairs. The term sport describes another subset of Physical Activity and means that exercises are performed in a specialized and organized form in order to improve competitive performance. The paper seeks to review literature on PA, exercise and wellness in its contribution to SDG, MDG and the Kenyan context of the Big Four Agenda. Methodology; A systematic literature searchwas performed in the following electronic reference databases: PubMed/ MEDLINE, IFLA Library, ProQuest and IJSR all publications up to March 2019. The searched term composed of: 'physical activity', 'wellness', 'exercise', 'Sustainable development goal', 'vision 2030; Inclusion and exclusion; The studies included are related to the physical activity, wellness, exercise, 'Sustainable development goal and vision 2030 about the various aspects of primary health care and particularly Preventive medicine and the Big Four Agenda of the Kenya Government. Exclusion: studies that did not report (or provide) sufficient information about SDGs or Millennium Development Goals; not focus on health-related goals and not using Physical activity or sport to achieve the above. Results; 87 articles were Identified through the systematic literature search; 69 titles and abstracts were identified after the exclusion of 18 duplicated articles. 20 studies were excluded because not fulfil the criteria of health-related goal finally 63 studies were excluded and at last six studies were included for systematic review and meta-analysis as it met the inclusion criteria. Discussion; Regular physical activity exerts beneficial effects and prevents the progression of a number of chronic diseases, Due to both the health, economic, and social benefits of physical activity as well as the high costs of inactivity, which include increases in obesity and diabetes, and the increasing age of populations, several countries have implemented national initiatives to promote physical activity. Insufficient physical activity is one of the leading risk factors for death worldwide. World Health Organisation developed the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020. Conclusion: All stakeholders should embrace the use of PA. exercise and wellness to improve the SDGs, MDGs and Vision 2030 and the 'Big Four Agenda' in Kenya. Recommendations; PA should be emphasized in the school's curriculum and companies

including the government agencies to improve PA participation, wellness programs and health related aspects of sport.

Keywords: Physical Activity, Sustainable development Goals, Health, Big four agenda.

# I. INTRODUCTION

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At center force are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all member states - developed and developing - in a global partnership. Kenya subscribes to the SDG's and aims to achieve them. Through the presidential speech on 12<sup>th</sup> December 2017, a big four agenda were adopted from the major SDG's (Presidential press, 2017).

The SDGs build on decades of work by countries and the UN, including the Affairs. Which startedIn June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries adopted Agenda 21, a comprehensive plan of action to build a global partnership for sustainable development to improve human lives and protect the environment to January 2015 where the General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.

Physical activity (PA) appears to be one of the most used buzzwords when it comes to viable means to improve health and prevent diseases across all age groups (World Health Organization, 2010). Even though the literature basis concerning PA and health is increasing steadily, and in order to provide a precise picture about the health-related effects and benefits of PA in especially to an economic set up, as one of the core intentions of this paper it appears to be necessary to precisely define what this term means. For the purpose of this article and as used by most researchers PA refers to any bodily movement employing the skeletal muscles that results in increased energy expenditure compared with the resting rate(Khoo, & Matthias, 2016). Exercise is a subcategory of PA as it incorporates planned, structured and repetitive movements that are performed in order to maintain or improve

health and fitness (Caspersen, Powell, & Christenson, 1985; INSERM, 2008). The term sport describes another subset of PA and means that exercises are performed in a specialized and organized form in order to improve competitive performance (INSERM, 2008). The latter will not be of relevance for this article as its main goal is not health or wellbeing.

Sport is also an important enabler of sustainable development. It has been recognized that there's growing contribution of sport to the realization of development and peace in its promotion of tolerance and respect and the contributions it makes to the empowerment of women and of young people, individuals and communities as well as to health, education and social inclusion objectives (2030 Agenda for Sustainable Development A/RES/70/1, 2015).

Health is considered an individual resource but also, at the same time, a matter of public concern. (Activity, 2009). This dichotomy divides the way people tend to think about their responsibilities for health (Ward, Saunders, & Pate, 2007). Nevertheless, only systemic solutions can be truly beneficial for all the parties involved. In order to raise the level of public health resources, various actions need to be undertaken which requires careful and aware planning, adjusted to state policy and emphasizing long-term goals which would not be changed with each successive change of cabinets (Smith, & Biddle, 2008).

The Kenyan Government is spending unprecedented amounts of money in an attempt to increase participation in physical activities. Therefore, no longer is public participation in physical activity and sports viewed as a matter of pleasurable, voluntary leisure time pursuit; rather, such activity has become an obligation with not only health, but also moral implications. This shift and meaning of participation in physical activity and sports in our social milieu is worthy of examination(Lee, 2016).

Much of what we "know" about participation in sports and physical activity is informed by

large scale epidemiological studies that tell us overall participation is low, and that women and girls, people with disabilities, ethnic minorities, and those of low socioeconomic status are less likely to be physically active(Res, 2001). This paper seeks to review literature on physical activity participation and the development of National development goals including the Big four agenda in Kenya.

## II. METHODOLOGY

A systematic literature searchwas performed in the following electronic reference databases: PubMed/MEDLINE,IFLA Library, ProQuest and IJSR all publications up to March 2019. The searched term composed of: 'physical activity', 'wellness', 'exercise', 'Sustainable development goal', 'vision 2030; for combined text for the complete search strategy the online supplementary data searched. Filters were applied to exclude articles regarding they did not report (or

provide) sufficient information about Health-related goals, Physical activity and wellness and achievement of the vision 2030. All duplicates were removed using criteria like not relevant to SDGs or MDGs. Restriction based on year of publication (i.e. last 10 year).

Selection criteria

Titles and abstracts of 87 sources identified in the various databases were reviewed & identified potentially relevant papers. Study included type of paper that described about role of PA and sports in all different disease condition their roles, and ways of working; included studies from any study design and methods, literature that described PA, sport, exercise working in any aspect of primary or community healthcare and any or health `issue, economic benefits of exercise. Overall included published and unpublished papers reported in English. In contrast, excluded papers not focused on PA or papers that focused on PA but lacked a definition or description of PA, exercise and sports in health context. Furthermore, excluded papers that are not reported about SDGs or MDGs (Olaniran et.al., (2017); Leaver, et. al., (2018); Wasti, et. al., (2018); Nachega, et. al., (2018).

Inclusion and exclusion criteria: -

Inclusion criteria: The studies included are related to the physical activity, wellness, exercise, 'Sustainable development goal and vision 2030 about the various aspects of primary health care and particularly Preventive medicine and the Big Four Agenda of the Kenya Government; various physical activity and community wellness programs: community involvement in Wellness programs, and their contribution to the several factors of the country's; economy; overall studies on SDGs for attainment of health-related goals among communities.

*Exclusion criteria:* A studies that did not report (or provide) sufficient information about SDGs or MDGs; not focus on health-related goals and not using Physical activity or sport to achieve the above.

## III. RESULTS

A total of 87 articles were Identified through the systematic literature search; Identified 18 studies were duplicates; remaining 69 titles and abstracts, screened the record and divided in to two categories i.e., SDGs and MDGs health related goals; after screened 20 studies were excluded because not fulfil the criteria of health related goal finally 63 studies were excluded; including duplicate studies, as they did not provide description of PA, exercise, wellness or SDG, MDG or Vision 2030. at last six studies were included for systematic review and meta-analysis as it met the inclusion criteria.

## IV. DISCUSSION

Regular physical activity exerts beneficial effects and prevents the progression of a number chronic diseases(Gu & Baker, 2018). Physical activity is a cheap and effective means for helping to prevent disease, improve health and wellbeing, and to promote integration and social interaction (Miles, 2007). The health problems affecting the muscles and bones (arthritis, osteoporosis, back pain) can be reduced from regular exercise training of at least a moderately—intense level. Special designed programmes to improve muscle strength were reported to help reduce risk of falling in older adults (Mitchell, 2013). These programs would greatly aid in reducing medical costs when embraced by the communities as a form of preventive medicine to illnesses and diseases.

According to the review by Warburton et al. (2010), drawing conclusions from 70 research studies, the relative risk of premature death can be reduced by a mean of 31% comparing the least active with the most active group, while emphasizing that greater benefits can be achieved with higher volumes and/or intensities of PA. However, also small increments have a marked effect. Another study by Blair et al. (1995) showed that unfit adults who implemented PA over a period of five years and therefore became physically fit had 44% lower relative risk of death compared to individuals who remained unfit, a finding highlighting elevated mortality benefits for people with initially low PA levels. Additionally, Myers, Prakash, Froelicher, Partington and Atwood (2002) examined the effects of PA on all- cause mortality in individuals with already existing chronic disease risk factors and found strong risk reductions among people who were active and/or more physically fit.

Due to both the health, economic, and social benefits of physical activity as well as the high costs of inactivity, which include increases in obesity and diabetes, and the increasing age of populations, several countries have implemented national initiatives to promote physical activity. A world-wide increase in the scientific interest in the promotion of the health enhancing benefits of physical activity during leisure time, in household and outdoor chores or at work has been observed since 1994 (Pate, 1995). Several years' later physical activity for transportation (walking, cycling, and use of public transport) became the object.

Insufficient physical activity is one of the leading risk factors for death worldwide (WHO, 2014). Adults who do not meet the global guidelines on physical activity have a higher risk of all-cause mortality compared with those who do (WHO, 2010). Globally, physical inactivity is estimated to account for between 6-10% of ischemic heart disease, stroke, diabetes, and breast and colon cancer (Lee, Shiroma, Lobelo, Puska, Blair & Katzmarzyk, 2012). In more recent times lack of physical activity has been recognized in public health agendasas a major cause of death and chronic disease. Physical inactivity is currently considered overall as the third highest risk factor for global mortality, accounting for around 9% of premature deaths (WHO 2009). Furthermore, overweight and obesity are considered the next highest risk factors for global mortality (accounting for 5% of deaths) (WHO 2009) with physical inactivity being widely accepted as a "cause" of overweight and obesity(Lee, 2016).

Following the Political Declaration of the High-level Meeting on the prevention and control of non-communicable diseases 2011(UN, 2011), WHO developed the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020. In 2013, the World Health Assembly agreed on a set of global voluntary targets which includes a 25% reduction of premature mortality from NCDS, and a 10% reduction in the prevalence of insufficient physical activity by 2025. A review of actions towards achieving these targets concluded that progress has been slow and uneven across countries. In 2015, NCDs were responsible for 40 million deaths with over 15 million people being premature (defined as between the ages of 30 and 70) with 85% of these occurring in developing countries, where the probability of dying prematurely from an NCD is up to four times higher than in developed countries (WHO, 2013)

It is paramount that governments should Recognize the established health benefits of physical activity, and expediate the slow progress of policy responses, as well as the new window of policy opportunity offered by the Sustainable Development Goals (Agenda 2030) with the call for accelerated action, the 140th session of the Executive Board in January 2017 endorsed the proposal by the delegation of Thailand for the Secretariat to prepare a report and a draft global action plan on physical activity. The draft global action plan was considered by the World Health Assembly in May 2018 through the 142nd Executive Board session in January 2018. It endorsed physical activity as a major factor and a contributor to the SDG through the Vision 2030 and proposed to member states to adopt the preventive medicine by endorsing physical activity (WHO, 2013). In Kenya, the Kenya Health Sector Strategic and Investment Plan (KHSSP) 2013-2017 is guided by Kenya's Vision 2030, which aims to transform Kenya into a "globally competitive and prosperous country with a high quality of life by 2030." The KHSSP acknowledges that improved health is a critical driver to the achievement of this vision (Ministry of Health, 2017).

The 2030 Agenda for Sustainable Development, and the commitment for its 17 goals made in 2016 by world leaders, provide a golden opportunity to refocus, renew and combine collective efforts to promote physical activity. It provides opportunities for urgent prioritization and scaling of efforts in implementation of effective actions so that increased levels of physical activity can contribute to achieving an improvement in health and wellbeing and support specific Sustainable Development Goals (SDGs). These SDGs include: food and nutrition security, through ending all forms of malnutrition including obesity (SDG2.2); improved health and well-being through reduction of NCDs; reduced road traffic accidents and improved air quality (SDG3.4, 3.6 and 3.9); quality education through enhanced readiness for primary education and improved educational outcomes (SDG 4.2, 4.1); gender equity contributing to ending discrimination (SDG 5.1); reduced inequalities through empowerment and promoting equal opportunity (SDG 10.2, 10.3); safe, sustainable cities and communities though sustainable

transport and urbanization and universal access to green spaces (SDG 11.2. 11.3, 11.6, 11.7); mitigation of climate change through reduction of fossil fuel use and other mitigation measures (SDG13.1, 13.2); protection of life on land through sustainable land use (SDG 15.1, 15.5); and peaceful and inclusive societies through reduction of violence and promotion of non-discriminatory policies (SDG 16.1, 16.5, 16.6) (WHO, 2016).

Sport remains universally popular and accepted as an important contributor to health, social, cultural and economic development as well as national character and values (Khan, Thompsom, Blaire, Sallis, Powell, Bull F, et al., 2012). Whilst global data on overall sports participation are, to date, very limited, there's a possibility that individual sports can attract global participation in very large numbers (e.g. 260 million registered football players). Although various high-income countries report around half the adult population participating in at least one sport (e.g. U.K. and Australia) (Khan, 2012), developing countries have reported participation in any exercise, recreation or sport to be very low. In India, for example, less than 10% of adults reported participation in any sports or recreation with lowest levels in rural areas and in women compared with men. The UN Sport for Peace and Development programme demonstrates the potential for sport, and other forms of recreational physical activity, to be a core part of community development, particularly with vulnerable communities (Hm Government, 2012). This case is no different from Kenyan context where the number of persons participating in sports has dwindled immensely. Kenya has moved ahead to adapt and Enact the Sports Act 2013 which was a mile stone in the development of physical activity, Physical education, Sports science and sports in Kenya(Kamenju, Rintaugu, & Mwangi, 2016). The envisaged entities such as Sports Kenya and Kenya Academy of Sports have continuously been expected to play the role of promoting development of sports atnational, county and sub-county levels (Government of Kenya [GOK], 2013).

## V. CONCLUSIONS

Academic work focused on monitoring and evaluating sport for development have, again, predominately been focused at programmatic level and on methodologies used to evaluate discreet interventions. Conclusions presented in these papers include calls for increased independent evaluations based on clearly defined theoretical frameworks (Coalter, 2013), more participatory evaluation approaches in the sector (Darnell & Hayhurst, 2011), and for more stakeholders to report both positive and negative outcomes. (Meeting, 2018). It's important that improved data and parameters to measure any progress that aids to provide governments, sporting Organisations and the private sector with better and adequate information on how, where and why to invest in sport to maximize the contribution to a broader policy objectives and sustainable development.

All stakeholders should also increase awareness

#### VI. RECOMMENDATIONS

The government should Escalate advocacy efforts aimed at professional, community, media and political audiences, to increase awareness, knowledge and engagement in joint action at the local, national and regional levels to increase levels of physical activity.

Extrapolating and quantifying the economic, social and environmental should be targeted to investments in sport-based interventions to help in offering one strategy to bridge this evidence gap between Physical activity and the national development goals.

Evolving common methods and tools that measure the contribution of sport-related policy to the SDGs should be an important consideration in strengthening the 'global framework for leveraging of sport for development and health'.

# **REFERENCES**

- [1]. Activity, P. (2009). Michal Bronikowski, 33-46.
- [2]. AbimbolaOlaniran, Helen Smith, RegineUnkels, Sarah Bar-Zeev&Nynke van den Broek. Who is a community health worker?

  a systematic review of definitions, Abstracts. Global Health Action. .(Document on the internet) (Cited 2018 February 2).Available from: https://doi.org/10.1080/16549716.2017.1272223
- [3]. Blair, S. N., Kohl, H. W., Barlow, C. E., Paffenbarger, R. S., Gibbons, L. W., & Macera, C. A. (1995). Changes in physical fitness and all-cause mortality. JAMA, 273(14), 1093–1098.
- [4]. Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. Public Health Reports, 100(2), 126–131.
- [5]. Chad A. Leaver Æ Gordon Bargh Æ James R. Dunn Æ Stephen W. Hwang. The Effects of Housing Status on Health-Related Outcomes in People living with HIV: A Systematic Review of the Literature. for reference of introductory part. (Document on the internet) (Cited 2018 February 2). Available from: https://www.aidschicago.org/resources/legacy/pdf/2008/housing\_p lan\_EffectsHousingStatus.pdf
- [6]. Coalter, F. (2013) Sport-for-Development: What Game Are We Playing? London: Routledge.
- [7]. Darnell, S. and L Hayhurst (2011) Sport for decolonization Exploring a new praxis of sport for development. Progress in development studies, 11(3), pp.183-196. 25
- [8]. Government of Kenya [GOK] (2013). Sports Act No. 25 of 2013 [revised 2015]. Nairobi. National Council for Law Reporting.
- [9]. Gu, Y., & Baker, J. S. (2018). Welcome to Physical Activity and Health, 2(1), 22–23.
- [10]. HM Government. Sporting Future: A New Strategy for an Active Nation 2015, oxford university press, 2012
- [11]. I-Min Lee, Eric J Shiroma, Felipe Lobelo, Pekka Puska, Steven N Blair, Peter T Katzmarzyk. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. Lancet 2012; 380: 219–29
- [12]. INSERM. (2008). Activité physique: contextes et effets sur la santé. Expertise collective. [Physical Activity: Contexts and effects for health. Expertise collection.] Paris.
- [13]. Jean B. Nachega, Olalekan A. Uthman, Jean Anderson, Karl Peltzer, Sarah Wampold, et al. Adherence to Antiretroviral Therapy During and After Pregnancyin Low-, Middle and High Income Countries: A Systematic Review and Meta-Analysis. (Document on the internet) (Cited 2018 March 9). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5061936/

- [14]. Kamenju, J. W., Rintaugu, E. G., & Mwangi, F. M. (2016). DEVELOPMENT OF PHYSICAL EDUCATION AND SPORTS IN KENYA IN, 11(4), 129–137. https://doi.org/10.14526/01
- [15]. Khan K, Thompsom A, Blaire S, Sallis J, Powell K, Bull F, et al. Physical activity, exercise and sport: their role in the healthof nations. The Lancet. 2012;380:59-64
- [16]. Khan, K., Good Sport. The Lancet. 2012; 380: 20
- [17]. Khoo, S., Matthias, M., Khoo, S., & Matthias, M. (2016). Physical Activity for Health and Longevity To cite this version:, (December).
- [18]. Lee, J. (2016). Sport, Physical Activity, and Health, (January 2015).
- [19]. Meeting, G. (2018). Measuring the Contribution of Sport to the Sustainable Development Goals, (June).
- [20]. Miles, L., 2007. Physical activity and health. Nutr. Bull. 32, 314–363. DOI: https://doi.org/10.1111/j.1467-3010.2007.00668.x
- [21]. Ministry of Health (2017). National Guidelines for Healthy Diets and Physical Activity. Government of Kenya. Nairobi.
- [22]. Mitchell, R., 2013. Is physical activity in natural environments better for mental health than physical activity in other environments? Soc. Sci. Med. 91, 130–134. DOI: https://doi.org/10.1016/j.socscimed.2012.04.012
- [23]. Myers, J., Prakash, M., Froelicher, V., Do, D., Partington, S., & Atwood, J. E. (2002). Exercise capacity and mortality among men referred for exercise testing. New England Journal of Medicine, 346(11), 793–801. doi:10.1056/NEJMoa011858
- [24]. Pate, R.R., 1995. Physical Activity and Public Health. JAMA 273, 402. DOI: https://doi.org/10.1001/jama.1995.03520290054029
- [25]. Res, I. J. A. (2001). ATTAINMENT OF HEALTH RELATED GOALS AMONG PERIPHERAL HEALTH WORKERS: Manuscript Info Abstract Introduction: - ISSN: 2320-5407 Method and materials: - Self-designed, 6(7), 1179–1186. https://doi.org/10.21474/IJAR01/7473
- [26]. Sharada P. Wasti1 Edwin van Teijlingen,PadamSimkhada,JulianRandall,Susan Baxter1et.al. Factors influencing adherence to antiretroviral treatment in Asian developing countries: a systematic review.discussion part. .(Document on theinternet) (Cited 2018 February 2).Available from: https://www.ncbi.nlm.nih.gov/pubmed/21967241
- [27]. Smith, A. L. & Biddle, S. J. H. (2008). Youth physical activity and sedentary behavior. Challenges and solutions. Champaign, II.: Human Kinetics.
- [28]. Sport for Development: Systematic review and comparative analysis, Final Report (2012).
- [29]. UN General Assembly (2015), Transforming our world: the 2030 Agenda for Sustainable Development, Resolution 70/1 of the

- United National General Assembly, September 2015, available at: https://sustainabledevelopment.un.org/post2015/transformingour world. Transforming our world: the 2030 Agenda for Sustainable Development, 37.
- [30]. UN General Assembly. Political Declaration of the High-Level Meeting of the General Assembly on the Prevention and Control of Non-communicable diseases. New York: United Nations, General Assembly, 2011 (http://www.who.int/nmh/events/un\_ncd\_summit2011/political\_de claration\_en.pdf?ua=1)
- [31]. United Nations. Millennium Summit of the United Nations.(Document on the internet) 2000(cited2019March10).Availablefrom:http://www.un.org/en/development/devagenda/millennium.shtml
- [32]. Warburton, D., Charlesworth, S., Ivey, A., Nettlefold, L., & Bredin, S. S. (2010). A systematic review of the evidence for Canada's physical activity guidelines for adults. International Journal of Behavioral Nutrition and Physical Activity, 7(1), 39– 219
- [33]. Ward, D. S., Saunders, R. P. & Pate, R. R. (2007). Physical activity interventions in children and adolescents. Champaign, II.: Human Kinetics.
- [34]. WHO Global Guidelines on Physical Activity and Health, 2010http://www.who.int/dietphysicalactivity/factsheet\_recommen
- [35]. World Health Organization. (2010). Global recommendations on physical activity for health. Geneva: World Health Organization.
- [36]. World Health Organization. Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020. Geneva: World Health Organization; 2013(http://apps.who.int/iris/bitstream/10665/94384/1/978924150 6236\_eng.pdf?ua=1)
- [37]. World Health Organization. Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020. Geneva: World Health Organization; 2013(http://apps.who.int/iris/bitstream/10665/94384/1/978924150 6236\_eng.pdf?ua=1)
- [38]. World Health Organization. Global Status Report on Noncommunicable Diseases 2014. Geneva: World HealthOrganization; 2014(http://apps.who.int/iris/bitstream/10665/148114/1/97892415 64854\_eng.pdf?ua=1)
- [39]. World Health Organization. Health as the pulse of the new urban agenda: United Nations conference on housing and sustainable urban development, Quito, October 2016.