

## **WATER ETHICS: THEORETICAL ANALYSIS OF MORAL DEVELOPMENT THEORIES**

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### **ABSTRACT**

Over the past decades, growing demands for, and misuse of water resources has increased the risk of water stress in many parts of the world. Agriculture is the most sensitive to water crisis, because it uses 70% freshwater in the world. Ethical concepts have a direct practical relevance in water resource management, because they can support decision making process in different water related issues. So, water ethics have been introduced as a value approach or as a soft-value path management besides other hard tools in solving water crisis. In water ethics context, different stakeholders such as private and public sector experts, farmers, policymakers and legislators have responsibilities and duties. The present study aimed to explain and compare major moral development theories, to present moral development framework for water ethics' stakeholders. The results of this study show that moral development theories such as psychoanalytic, cognitive structuralism, social learning, behaviorism, moral character/identity theories beside Marxism and religious doctrine have different attributes and orientations about human nature, casual factors, moral education strategies, and moral development stages. Based on these theories, a moral development framework presented to improve the morality of water stakeholders.

**Keywords:** *Water Crisis, Water Ethics, Moral Development Theories, Agriculture, Stakeholders*

### **INTRODUCTION**

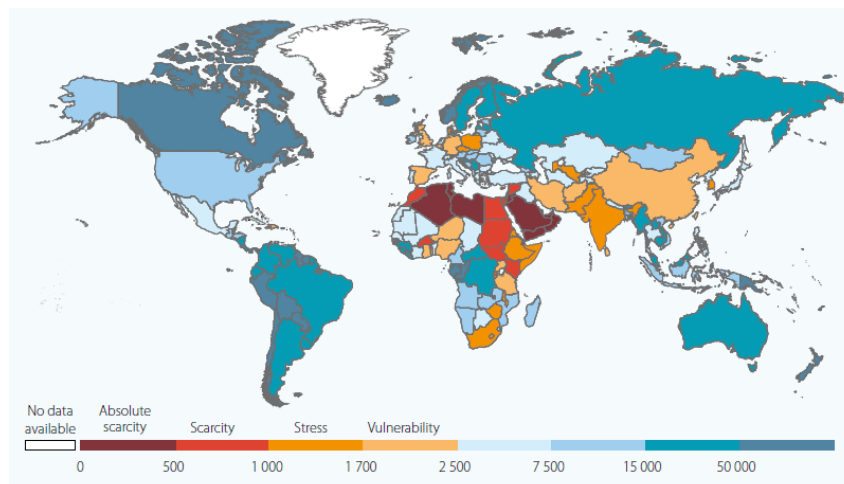
Around the world, nearly a billion people do not have access to clean and safe water, which the majority of them residing in developing countries. The water crisis in third world countries is severe – more than 3.4 million people die each year from water-related causes. While the population of world tripled in the 20th century, the use of freshwater resources has grown six fold. Within the next fifty years, the world population will increase by another 40 to 50 %. This population growth - coupled with industrialization and urbanization - will result in an increasing demand for water.

Over the past decades, growing demands for, and misuse of, water resources have increased the risks of water pollution and stress in many parts of the world.

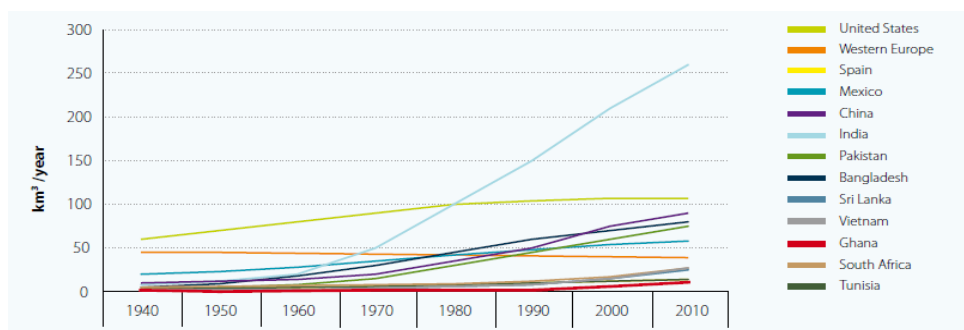
The frequency and intensity of local water crises have been increasing, with serious implications for health, environmental sustainability, food security, and economic growth. As a result, water often becomes a limiting rather than an enabler factor, to social well being, economic development and healthy ecosystems (WWAP, 2015).

The distribution and availability of freshwater resources, through precipitation and runoff, can be erratic, with different areas of the globe receiving different quantities of water over any given year. There can be considerable variation between arid and humid climates and over wet and dry seasons. However, compounded yearly averages show significant variations in per capita water availability between countries (Figure 1).

Also, the world has been experiencing an unbelievable rate of extraction in groundwater, especially during five past decades. The recent satellite study has revealed falling groundwater tables in the United States, North Africa, India, the Middle East and China, where expanding agriculture has increased water demand. In the Middle East, depleted aquifers have been a major driver of the relocation of agriculture in Africa (NCGRT, 2012). For example, Figure 2 shows the rapid growth in groundwater use in India, where the increase in the total number of mechanized wells and tube wells rose from less than 1 million in 1960 to 19 million in 2000.

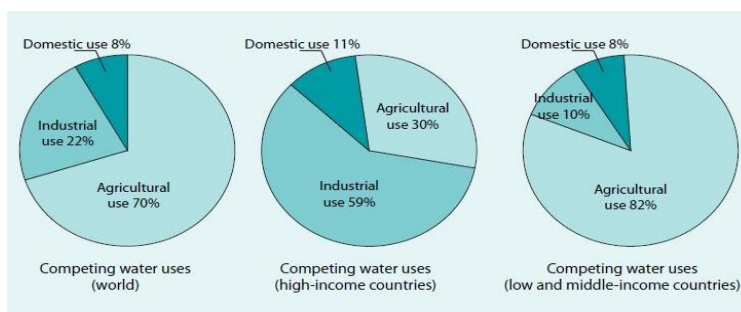


**Figure 1: The Distribution of Renewable Water Resources (WWAP, 2015)**



**Figure 2: Growth in Agricultural Groundwater Use in Selected Countries, 1940-2010 (WWAP, 2015)**

Of all sectors of the economy, agriculture is the most sensitive to water scarcity, because it uses 70% freshwater in the world. According to figure 3, Agricultural use of water resources in high and middle-low income countries are 30% and 82% respectively. So, many middle and low income countries are in Africa and Asia. These countries experience more water stress (figure 1). Agricultural practices like irrigation, livestock, fisheries and aquaculture is estimated as the cause of 71% of total water withdrawal. For example, between 15-35% of withdrawal of water for irrigation are unsustainable.



**Figure 3: Agricultural Water Use (Liu *et al.*, 2011)**

According to WWAP (2015), inappropriate development pathways and governance failures have generated immense pressures on water resources, affecting its quality and availability. The capacity of planet in response the growing demands for water is being limited, and there can be no sustainable

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development unless the balance between water demand and supply is restored. Steduto *et al.*, (2012) argued that the driving factors behind water scarcity are Factors affecting water supply and Factors increasing water demand. Factors affecting water supply include natural factors (such as the annual volumes of flow, their distribution in time and space, and inter-annual variability depend on climatic and geomorphological conditions) and anthropogenic interventions which can increase the volume of water available for use. Factors affecting water demand consist Population growth, Human pressure on water resources increases as their incomes grows, increasing incomes lead to a rise in the per capita demand for food, urbanization also affects food consumption.

According to Harremoes (1996 and 1997), water resources management encompasses instruments and philosophical issues such as command and control (laws, directives, standards, norms and codes), economic instruments (taxes, levies and subsidies), consensual approach (hearings, consensus conferences and stakeholder participation) and ethical approaches (ethics, morals and attitudes). Also, Harremoes (2002) believed that water ethics is an important tool for decreasing water scarcity, but frequently ignored in regulation. He mentioned ‘equity in availability and applicability of water’ as an important ethical issue at all levels, from the local community to the global scale.

Groenfeldt (2013) argued that the factors were influencing water management consist default factors (Population growth, Economic development and Cultural worldview) and new factors, including Climate change, Globalization/privatization, Environmental degradation and ethical change. His book entitled ‘water ethics: a value approach to solving the water crisis’ refers to water ethics as a soft-value path management besides other hard tools to decrease water crisis.

In this study, Documentary method was used based on literatures, archives and official documents. This is an analytic paper which is going to discuss the awful trend of water crisis and to present water ethics as a value approach for solving it. The main purpose of present study is to present water ethics as a value approach for solving water crisis and compare different related moral development theories. The specific aims include:

- Introducing an agricultural water ethics approach.
- Showing duties and responsibilities of water stakeholders.
- Explaining and compare moral development theories
- Presenting moral development model

### **Agricultural Water Ethics**

Aldo Leopold, believed that an extension of ethics beyond our immediately obvious self-interest, to include the well-being of nature, is “an ecological necessity” (Groenfeldt, 2013). This extension led to the rise of “environmental ethics” as a philosophical debate that is built upon a set of values about how we ought to relate to nature. Water ethics as a sub discipline of environmental ethics refers to application of values in water management and governance (Groenfeldt and Schmidt, 2013)

Ethics refers to a coherent system of values. Also, ethics refers to “discipline dealing with what is good and bad and with moral duty and obligation” (Groenfeldt, 2013). The rise of ethical discourse on global water policy networks has already led to a key debate regarding how a water ethics fits with other normative claims. From one perspective, a water ethics may be viewed as another aspect of existing concerns over the value of nature or regulating best management practices in natural resources policy. So, establishing a water ethics is similar to debates in environmental philosophy and applied ethics insofar as the aim is to provide an evaluative framework that prescribes correct behavior (Brown and Schmidt, 2010).

UNESCO investigates the role of water ethics through working group meetings organized under the auspices of the World Commission on the Ethics of Science and Technology (COMEST) and the International Hydrology Program (IHP) in 1998. This led to the publication of a series of 14 essays and the report Best Ethical Practice in Water Use which also included 5 case studies (Liu *et al.*, 2011).

The field of water and environmental management is concerned with the actual decisions made regarding resource allocation and use. By looking within this process, it is obvious that water management frameworks unavoidably make a number of ethical judgments. Any decision-making framework like

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water decisions requires value judgments regarding how to define and resolve problems (Brown and Schmidt, 2010).

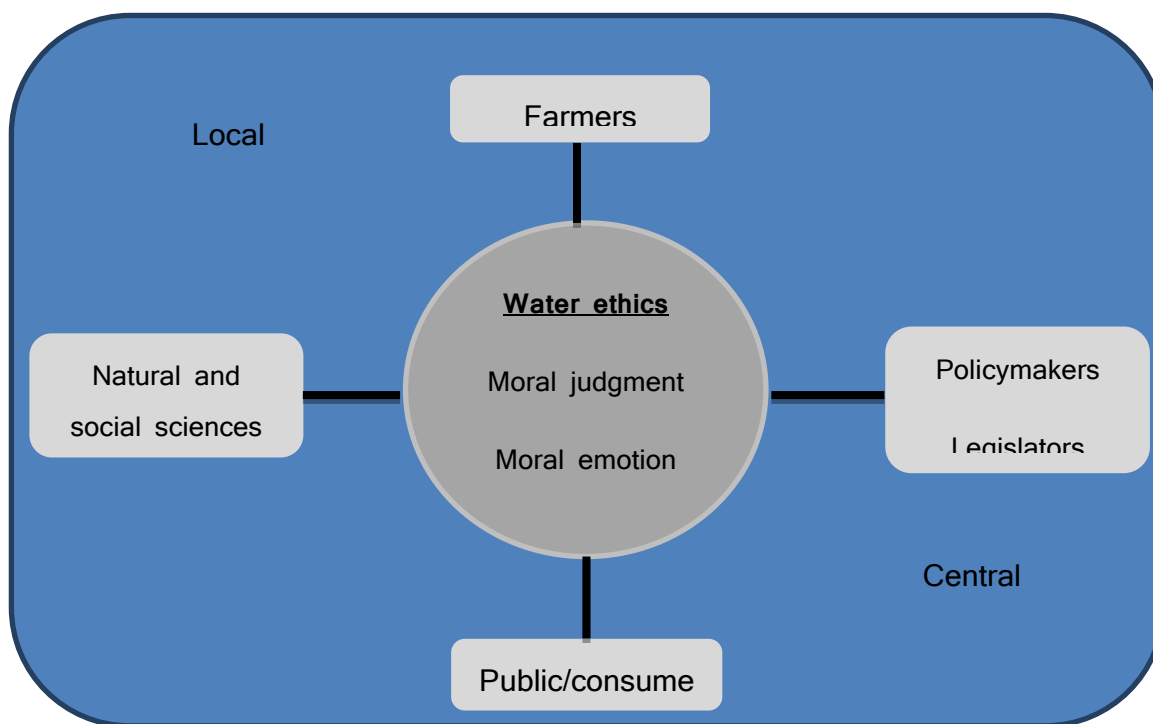
In other word, every decision about water reflects values about the relative importance of different water uses, impacts, and outcomes. Making an effort to understand what tacit values we are bringing to our water decisions, will help us make better decisions because we will understand our motivations more clearly. In other word, awareness of ethics can contribute to better decision about water management and governance (Groenfeldt, 2013).

The ethical basis for human decision about nature and water is constantly evolving. Ethical concepts have a direct practical relevance in water resource management. Because it can support the decision making process in different water related issues (groundwater, water quality), and requires simultaneous consideration from different areas of water use, both from the supply and demand side (an integrated approach to water resource management), and their integration with socioeconomic aspects.

Ethics can form both the source and normative content of a particular decision by providing a reason and justification. From this perspective, there are several viewpoints of ethics: descriptive ethics is to describe the view that people have relating to ethical conduct, and the case studies and observations of people's behavior provide us a range of data to consider the world view of different persons. From the perspective of prescriptive ethics, ethics are a socially accepted moral standard to define what you can do and what you cannot do (e.g., behavioral ethics) and/or a standard of what harm or pain, such as damage, loss, poverty, thirst, etc., can be inflicted upon other moral agents, including human beings (e.g. consequential ethics) (Liu *et al.*, 2011).

#### **Water Use Stakeholders: Farmers, Experts, Policymakers**

In the framework of water ethics construction, both private and public experts, farmers, policymakers and legislators have duties (figure 4). Responsible practices of these agents can ensure water ethics.



**Figure 4: Different Stakeholders in Water Ethics Programs**

Policy makers and legislators who are responsible for or involved in formulating water policies should act ethically. The roles of these decision makers are essential in designing efficient water policies and laws.

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They are responsible for combining ethical considerations into the policy making, designing water institutions, preventing water corruption etc.

Stakeholders like agricultural water users or farmers play an important role in the construction of the actual and the ideal water ethics.

If they take their social and environmental responsibility, adopt water saving technologies, recycle water resources, follow and respect natural rules and protect the environment (water resources) self-consciously, then the construction of water ethics will be easier (Liu *et al.*, 2011).

Water users' amoral practices such as illegal welling and to disrespecting water resource laws would increase water crisis.

Experts in natural science or social science should have stronger environmental concerns due to their deep understanding of the nature and water resources. Therefore, experts should take the responsibility to advocate, educate and propagate ethics, and help the decision makers and public build up the consciousness of protecting the environment (Zheng, 2005).

For integrated water management, interdisciplinary collaboration is needed to bring all elements together. Experts in different water related fields should work jointly and combine social and human sciences with the natural sciences during the constructing of water ethics (Liu *et al.*, 2011).

Central and local government has an important role in water governance, too. Applying cooperative approaches and decentralization of government systems led to efficient water governance. Ethical water governance would embrace different stakeholders and ensure water ethics.

Even, the public, as consumers, can affect indirectly water crisis. Increasing consumption of agricultural productions can lead to high demand for these goods. Then, more water would be necessary for response to consumers' demand.

### **Moral Development Theories**

Human development includes intellectual, physical, and moral growth. This article focuses on moral development as one piece of human life. Theories of moral development attempt to explain how individuals acquire moral values and how such values guide the way those persons treat other people and—in the case of some theories—the way they interact with supernatural spirits.

“Moral development” is the process through which people acquire the concepts of right and wrong as well as the ability to regulate behavior to adhere to standards deemed appropriate by society or other authorities (Termini and Golden, 2007). Moral development focuses on the origins and change of morality from infancy through adulthood. The field studies confirm the role of peers and parents, conscience and values, socialization and cultural influences, empathy and altruism in facilitating moral development. According to moral psychologists, the concept of morality is comprised of three distinct yet interrelated dimensions: “moral reasoning” (cognition), “moral emotions” (affect), and “moral conduct” (behavioral).

In recent decades, moral psychologist's efforts led to emerge moral theories such as Psychoanalytic Theory, Cognitive Structuralism, Social Learning or Social Cognition. Also, the Jewish-Christian-Islamic sequence of religious ideologies consist moral concepts that were introduced as moral religious doctrine. Most countries in areas with water stress are in Asia and Africa have Islamic beliefs, so Islamic ethics as a sub discipline of religious doctrine will be discussed. These moral theories intended to account for how and why people grow up ethically.

### **Moral Behaviorism**

Behaviorism was a movement in psychology that emphasized the outward behavioral aspects of human and dismissed the inward (cognitive and affective) aspects. Skinner's self-described "radical behaviorist" approach is radical in its insistence on extending behaviorist strictures against inward experiential processes to include inner physiological ones as well.

Behavioral theorists have focused on “Moral conduct” that is the behavioral component of morality. Moral conduct is comprised of two parts. First, engaging in prosocial behaviors or helping behaviors. Second, resisting or inhibiting to engage in antisocial behaviors such as stealing (Termini and Golden, 2007).



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B. F. Skinner saw moral development from the standpoint of a behaviorist in that moral behavior reflected the individual's past conditioning: the individual learns morality through social reinforcement (rewards and punishments) in response to his or her actions. Social approval or disparagement is provided first by the parents, later by powerful social institutions, including schools and legal and religious bodies. True to his behaviorist leanings, Skinner did not view moral behavior as rooted in character, but simply as responses to social conditioning (Fleming, 2006).

### Psychoanalytic Theory

Psychoanalytic theorists take their definition of what is moral from the norms and values of the existing culture. They describe the operation of becoming moral as the internalization of these cultural norms and values in the superego through a process of parental identification, which, according to Freud, culminates in the resolution of the Oedipal conflict at age 5 or 6 (Power, 2012).

Freud presumed that the adult personality consists of three operatives—*id*, *ego* and *superego*—that have evolved over the first two decades of life and function at various levels of consciousness. The *id* or Instincts that already present at birth and activate all growths and behavior, reside in the unconscious. The *ego* that begins to develop during infancy and early childhood is consciously and well aware of the opportunities and restrictions of the environment. In Freudian theory, no moral values are inborn. Thus, infants arrive in the world *amoral*—with no sense of right or wrong. Freud applied the label *superego* to the child's proclivity to assimilate moral values and to employ those values as guides to behavior. By affecting the agents of environment, *superego* evolved during human life. The initial agents are parents and immediate caregivers. Subsequently, the growing child acquires values from ever-widening circles of acquaintances—age-mates, teachers, religious leaders, counselors, and mass-communication media (Thomas, 1997).

### Cognitive Structuralism

Cognitive Structuralist theorists like Jean Piaget (1896-1980) and Lawrence Kohlberg (1927-1987) reject the assumption that morality can be equated with culturally relative principles. They saw moral development as occurring through a sequence of moral judgment stages in which individuals' reason about moral problems or dilemmas (Power, 2012).

Cognitive-structuralist theories of moral development assumed that first, individual's cognitive structures derived from the life incidents. Second, these cognitive structures change with advancing age, during the years of childhood specially. Third, the characteristics of anyone's cognitive structures are determined by a combination of that individual's genetic inheritance and environmental encounters. Forth, the development of moral reasoning consists of a sequence of changes in a person's cognitive structure and in the contents of the mind (memories, beliefs) (Thomas, 1997).

Piaget (1965), during his studies, concludes that moral development involves two successive domains, the *heteronomous* and the *autonomous*. Initially, People operating from a heteronomous perspective accord unilateral respect for authorities (such as parents, teachers, the clergy and police) and for the rules they prescribe. As people grow up, they operate from an autonomous perspective base their moral judgments on mutual regard among peers or equals and respect for the rules that guide their interaction.

Based on Piaget's stages of moral judgment, Kohlberg (1971) postulated three level, including six stages in the development of moral reasoning from early childhood into adult life. In *pre-conventional Level* of moral reasoning that consists *Heteronomous and Instrumental Morality stages*, the individual is responsive to cultural rules and labels of good and bad, right or wrong, but interprets the labels in terms of either the physical or hedonistic consequences of action (punishments - rewards, exchange of favors) or the physical power of those who enunciate the rules and labels. Conventional Level includes Impersonally Normative Morality and Social System Morality stages. At this level, the individuals perceive the maintenance of the expectations of their family, group, or nation as valuable in its own right, regardless of immediate and obvious consequences. The individual is oriented toward "what pleases or helps others and is approved by them" and "the maintenance of the social order and law". Post-Conventional level implies Social-Welfare Morality and Prescriptive General Ethical Principles stages. At this level, the individual makes a clear effort to define moral values and principles that have validity and application apart from the

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authority of the groups of persons holding them and apart from the individual's own identification with the group.

Kohlberg proposed that four principal factors interact to determine how far in the six stages hierarchy a person will progress and when he or she will arrive at each stage. These major factors are the individual's level of logical reasoning, the individual's desire or motivation, opportunities to learn social roles and the form of justice in the social institutions with which the person is familiar (Thomas, 1997). Kohlberg draws some moral dilemmas and believed that by involving people in these dilemmas can help them to evolve their moral reasoning.

### **Social Learning Theory**

Social-learning theorists are more interested in how people acquire moral values than what those values are. Whereas Piaget defined the progress of values from the heteronomous to the autonomous, and Kohlberg focused people's advance from accepting society's laws to developing their own moral principles, social-learning proponents are less likely to which of these value bases are more admirable than another. And whereas religious theories describe specific moral or amoral behaviors, social-learning models offer no such lists.

Social-learning theorists assumed that people's moral values are not inborn. Instead, they are learned during the social encounters of daily life. They tend to equate morality with societal norms and more broadly with other-oriented or altruistic acts. Similar to the psychoanalytic theorists, they maintain that individuals become moral through the internalization of societal norms. Albert Bandura, Stanford University psychologist, demonstrated that norms are acquired not only through external rewards and punishments, but also through observational learning and intrinsic reinforcement (Power, 2012). Moral development does not progress in a stage wise fashion, but graded day-by-day process of accumulating and refining one's values and ways of acting (Thomas, 1997).

Bandura (1991) believed that moral behavior results from a combination of rational or cognitive sources (moral values, prudential considerations, and ego protection manners) and irrational or affective sources includes strong emotion (fear, rage, lust, shame, affection, sympathy) that can alter rationality in moral-decision situations. All of the facets of moral development (cognition, emotion and behavior) affected by the social environment. Social learning theorists especially focused on "Moral emotion" such as "guilt, discomfort, concern, and empathy following a transgression" (Termini and Golden, 2007).

Bandura has faulted cognitive-structuralists for failing to account for the discrepancy that often exists between a person's highest stage of moral reasoning (as in Kohlberg's scheme) and the way people actually behave in moral encounters. The error is that cognitive structuralists center their attention solely on people's reasoning about the values they find in rather simplistic moral dilemmas they are asked to judge. This is the error of proposing that rationality dictates moral behavior, a proposal that fails to recognize other factors (prudence, emotions and complex environmental influences) that participate in determining how people conduct themselves in moral situations (Thomas, 1997).

Bandura (1977) and Kadivar, (2011) proposed that the process of learning moral conduct from moral model, includes five main functions: (a) paying attention, (b) coding for memory, (c) retaining in memory, and (d) carrying out the action. All four steps require (e) motivation.

### **Moral Character and Moral Identity**

The views of moral character and moral identity held by Socrates, Plato, Aristotle, and the Stoics are the starting point for most other philosophical discussions of character and identity. Specially, Aristotle presented virtue ethics that explain the characteristics of virtuous people.

In the philosophy of ethics and normative ethics, virtue theory emphasizes the character of the moral agent, rather than rules or consequences, as the key standard of ethical thinking. In other word, virtue ethics focuses virtues, or moral character, in contrast to deontology, which emphasizes duties or rules, or consequentialism, which relays on the consequences of actions. Thus, virtue ethics theory concentrates on the personal characteristics (Jeong and Han, 2013). In moral psychology, moral character theory similarly emphasizes attributes of agents. Also, moral identity focuses individual identities that shape moral judgments and actions.

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Berkowitz (2002) refers moral character as an individual's set of psychological characteristics that affect person's ability and inclination to function morally. In other word, Moral character is an evaluation of a specific individual's stable moral attributes. This concept refers to the existence or lack of virtues such as empathy, courage, compassion, honesty, and loyalty, or of good behaviors or habits. Lickona (1991) mentioned that moral character consists of knowing, desiring, and doing the good—habits of the mind, heart, and action.

Campbell and Bond (1982) proposed major sources in influencing moral character development: heredity, early childhood experience, modeling by important adults and older youth, peer influence, the physical and social environment, the communications media, the teachings of schools and other institutions, and specific situations and roles that elicit corresponding behavior.

Moral identity is one of identities that a person can use as a basis for self-definition. There is evidence that this identity plays an important role in moral functioning by influencing how people interpret and respond to situations involving moral judgment and choice (Aquino *et al.*, 2011). Blasi (1984) described moral identity as an individual difference reflecting the degree to which being moral is a central or a defining characteristic of a person's sense of self. Blasi (1980; 1984) argued that acting morally is a characteristic of mature people, because of their identity, especially moral identity. He argued that moral identity is directly related to moral action, namely by providing a truly moral motive.

Moral identity concerns the degree to which morality is an important part of a person's identity. Two approaches to moral identity are: character perspectives and social cognitive perspectives. From character perspectives, moral identity is the importance of moral values, traits, and actions to a person. Some people see morality as so central to them. When people have a strong sense of moral identity, there is little conflict between what they know is right and what they really want to do (Blasi, 2004). Social cognitive perspective refers that moral identity is about having moral schemas- knowledge structures about aspects of our relationships, and our experiences, etc. people who have a clear idea of what it means to be a moral person may be more readily guided by these schemas in their interactions with others.

Both psychological moral character and moral identity concern about what the agent is rather than duties, rules and consequences. They inspired by philosophical virtue ethics which emphasizes virtues like honesty, responsibility, avoiding guilt, etc. individuals characterized by qualities seems to be moral actors.

### Marxist Theory

The theory of societal development published in 1848 as *The Communist Manifesto* by two German political philosophers, Karl Marx and Friedrich Engels, provided a worldview from which elements can be extracted to represent a Marxist theory of moral development. In the late 19th century and early decades of the 20th century, Vladimir Ilyich Lenin and Joseph V. Stalin in the Soviet Union, Mao Zedong in China, Josip Broz Tito in Yugoslavia, Fidel Castro in Cuba, put this master's vision into practical political and economic acts. As a result, a present-day Marxist theory of moral development can be seen as a collection of beliefs founded on Marx's world view and embellished with details and practical applications by his disciples.

The moral domain in Marxist theory encompasses people's interactions within the particular society's system of producing and exchanging material goods. All social life—government, education, religion, artistic endeavors, moral values—derives from the economic system. In the heredity-environment controversy over the causes of people's moral condition, Marxism falls heavily on the environment side. Children are born amoral—with no knowledge of good or bad and no innate tendency to immoral behavior. Moral values are all acquired from the environment during the process of the child's growing up. Thus, people are not innately selfish, and can learn to be altruistic and incorporate this trait into their personalities as a key moral virtue that guides their social interactions. The length of moral development extends from infancy until physical death, with the first two decades of the life span regarded as especially influential (Thomas, 1997).

Moral values embedded in communist doctrine consists People's Obligations such as altruism, self-sacrifice, cooperation, work hard for the good of the group, be willing to accept benefits equal to other



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members of the society, pursue a vocation assigned by a central authority, and advancing social revolution. Also, reject feudal and capitalist values such as competition, selfishness, commitments to amassing wealth, receiving unearned income, acquiring private property, inheriting property.

People's environment, rather than their heredity, determines their ways of thought, including their ways of applying moral values. People do not have an innate sense of right and wrong. Instead, the activities in which they daily engage as participants in the society's system of producing and consuming goods and services dictate the values people apply in their social interactions. Thus, moral thought and behavior of people in one type of society, such as a capitalistic form, might differ from that of people in another type, such as a state socialist form. Also, the moral values encouraged within a society will be ones in keeping with that society's cultural history, a history resulting from the dialectical confrontations typically experienced within the modes of producing and distributing goods and services. People who are caught in the midst of a change from one social system to another can be expected to experience some difficulty replacing their existing set of values with a new set suited to the requirements of the new social order.

The communist leaders believed that self-sacrifice was not fostered in feudal or capitalistic systems, which valued competition more than cooperation and encouraged people to work hard to increase their personal profit. Thus, the transition from a capitalist to a communistic social order required not only a revolution in the system of producing and consuming goods, but also a revolution in people's motives and thought processes. Thus, to change people's value from selfishness to altruism, it is necessary for the leaders of the communist order to impose unselfish behavior by means of education and strong punitive measures until the people willingly embrace the principle of self-sacrifice for the welfare of all. In other words, during the period of transition from capitalism to communism, force may be necessary to get the communist values.

### **Religious Doctrine**

Judaism, Christianity, and Islam have agreement on the most fundamental issues such as the source of truth, the nature of reality, the origins of the universe, the purpose of human life, causes of moral and immoral behavior, the role of consequences in morality, and personality structure.

Based on religious doctrine, the universe and all its components were created by a single Supreme Being known by such titles as Yahweh, God, the Lord, and Allah. That Supreme Being, who continues to manage the universe today, is all-knowing, all-powerful and in all places at once. So, the moral duty of all human beings is to obey the commandments of the Supreme Being. The moral domain is defined primarily by God's commandments and secondarily by the interpretations of those tenets by the clergy. Proper moral development consists of learning to abide by the commandments. Thus, the evidence on which followers base their convictions consists of the content of their holy books (Quran, Bible, and Torah) and of interpretations of those contents offered by recognized religious authorities. To believe that the scriptures of one's own religion represent the truth requires an investment of faith and trust in the assurances of religious leaders.

Each human is a combination of an observable physical entity (the body) and an invisible moral essence (the soul). The life span of the human essence (the soul) begins either with biological conception or soon afterward but does not end with physical death. Instead, the soul continues to exist eternally in one of reality's invisible locations—Heaven or Hell, or sometimes in a temporary holding area known as Purgatory or Limbo. Based on this belief, moral domain relates to the human soul. Moral behavior is controlled to a great extent by people's expectations of the consequences they will experience for their actions—reward for abiding by God's commandments and punishment for neglecting or violating them. Some rewards and punishments may be dispensed during people's lifetime on earth—good fortune for obedience and misfortune for disobedience. But the most important and inevitable consequences occur in life after death, on Judgment Day, when God ensures that people experience the results of their lives on earth. Obeying God's commandments increases one's chances of enjoying eternal life in Heaven after earthly death (Thomas, 1997).

All moral development results from the interaction of supernatural and natural forces. The supernatural forces are divided into two opposing camps, the good and the evil, with the good headed by God and the

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evil by Satan. God and His angels act to foster the right things to do. Satan and his cohorts are evil, acting to promote hate, disorder, and destruction.

### Islamic Ethics

Islamic ethics is based on the worldview that man is a trustee and holds responsibility of being the vicegerent (*khalif*). Man is delegated to manage and improve lives on earth according to the divine laws (*wahy*) of Allah. The Quran mentions that Allah has empowered man with the qualities of intellect, knowledge, wisdom and guidance, which put the man into a unique position above other creatures. The Quranic term *khalif* signifies human's duty and responsibility to improve nature. As a *khalif* whose duty is *ta'mir* (improvement of life), man is inaugurated to be the steward and guardian (*musakhar*), who will manage human and nature, to improve life and make earth inhabitable place. Thus, within the framework of *khalif* (trustee), *ta'mir* (improvement) and *musakhar* (steward), man, has an ethical duty to constantly upgrade the efficiency and the quality of nature and other creatures (Hashi, 2011).

The moral values in Islam have been inspired by two seminal sources. One is the message revealed by God to the Prophet Muhammed and recorded in the Quran. The second is the exemplification of that message in the perceived pattern of traditions, including the Prophet's deeds, speeches and norms (Hesamifar, 2012). In other word, In Islam, while the Quran lays the foundation of moral concepts and standards, the *Sunnah* (lifestyle) of the Prophet contains the actual practices of these moral concepts.

In Islam, there is a divine law (*Shariah*) which concerns the human's conduct which all Muslims must follow. There is also emphasis upon the fear of God and an eschatology which relates to God's judgment of human action on earth. The *Shariah* is a concrete law which contains a set of moral values and the framework of Muslims' religious life. The jurisprudence (*fiqh*) books contain the specific laws of the *Shariah*, but *Shariah* itself also includes moral and spiritual teachings that are beyond of a legal nature, although the law and the ethics in Islam are not separated. Thus, the whole personal and societal Islamic ethics is related to *Shariah* (Nasr, 2002).

In the Islamic ethical system, human nature is not immoral or amoral, but good (*fitrah*). Man is born with good natural disposition; immoral traits are acquired in lifespan. Human conducts are judged to be ethical or otherwise, depending on the intention of the individual and in accordance with the divine texts (*shariah*). Human conduct is considered ethically good (*amalsalih*) depend on be done with good motives (*niyyahhasanah*), and be in accordance with the *shariah's* norms.

Islamic ethics are transcendental, because the determination of what is moral and what is not or what is proper and what is improper, all comes from Allah.

So, in the Islamic ethical system decisions that benefit the majority or minority are not necessarily ethical in themselves.

Because, In the Islamic conception, ethics is not a number game; therefore, Islam rejects the utilitarian contention that says moral ethics is whatever brings the greatest happiness to the greatest number of people.

For instance, regardless of the number of the people who approves corruption and bribery, they are immoral, and would remain unethical in Islam (Hashi, 2011).

### Comparing Moral Development Theories

In this section, moral development theories are compared according to some attributes such as: inspired normative ethics, the selection focus of morality, length of development, moral vsim moral principles, sources of evidence, moral human nature, personality structure, causal factors, moral development stages and moral education strategies (Table 1).

The selection Focus means the selection of what belongs in the moral domain. For example, cognitive structuralists theories argues that all morality, consists in a system of rules, and people should acquire them.

Morality grounded in obedience to authority is perhaps best exemplified in religious doctrine which holds that humans are obligated to abide by precepts issued by one or more supernatural beings. Social learning and psychoanalysis theorists describe values as beliefs shared in a social group; each society establishes for itself the set of values that the young are expected to acquire (Thomas, 1997).

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Sources of evidence refer to investigative techniques that a theory derived its structure and content from. Religious doctrine based on a Divine revelation and inspiration, but other moral theories involved the logical analysis of empirical data (Scientific approach). Some moral theories like Religious doctrine implies universal moral principles, but most secular moral theories such as behaviorism and social learning theory have no moral principles, because they believe in ethical relativism.

Moral human nature refers to a natural moral condition of human being. Religious doctrine like Islamic ethics hold that children are innately prone to act in moral ways, because all human have an innate sense named *fitrah*.

But, most secular moral theories regard that the child's initial nature as amoral, with children prone to be neither moral nor immoral.

In moral development theories, the intensity or significance of moral development during some parts of life period is greater than other parts. For example, cognitive structuralists believed that children aged 6-13 experienced more moral development period.

Instead, religious doctrine holds that moral development belongs to the human soul, so it expands to lifespan and maybe after physical death.

The psychoanalytic version of personality structure features three chief functionaries—*id*, *ego*, and *superego*—that operate at different levels of consciousness. But, other moral development theories have described no explicit personality structure. Instead, cognitive structuralists proposed universal, sequential and irreversible moral development stages. But, Social-learning theories typically portray moral development as a continuous, gradual process (Thomas, 1997).

Most moral development theories explicitly or implicitly determined factors that cause people's moral thought and action. For example, moral behaviorists focused on the environment, but cognitive structuralists emphasized personal moral reasoning. Social learning theories refer to moral models that inspire morality. Islamic ethics focuses on an innate sense of morality (*fitrah*), moral models and divine inspiration.

### **Moral Development Model**

Water ethics program aimed to improve water stakeholders' morality. So, developing moral growth process is essential. The present study tried to explain psychological moral development theories for developing practical and suitable moral development framework in water ethics domain.

Based on attributes of moral development theories, moral judgment, intention and behaviors depend on personal norms (superego), past rewards and punishments, social or cultural norms, religious beliefs, moral knowledge, moral reasoning level, and moral emotions (figure 5). In other words, these factors can influence people's moral thinking and actions.

According to psychoanalytic theory, superego as the moral part of personality has been evolved during human life. Moral thinking and actions related to water initially affected by parents and then by teachers, religious leaders, counselors, and mass-communication media. So, Pedagogical instructions about water ethics issues are very important, because they can strengthen superego and facilitate moral behaviors related water resources.

According to most secular theories, people's moral values are not inborn, but they are learned from social and cultural norms and moral models. For example, progressive and leader farmers as moral models can influence the morality of others.

Reward and punishment are most used solutions in water ethics programs. For example, punishing farmers who violate water laws can be prevented illegal welling, or rewarding farmers who are responsible for water conservation activities and respect to water laws can pursue them to act ethically. Stakeholders' Rewards and punishments experiences may produce good results, but the action and the consequences should be balanced. Religious doctrine refers to rewards and punishments in another world. Moral thinking, emotion and action are three parts of human morality. Moral development programs related water resources, should be focused on all of them. Because, strengthen the chain sequence of moral thought-emotion-action at the water stakeholders' mind-heart can ensure the sustainability of water resources.

**Table 1: Comparing Moral Development Theories**

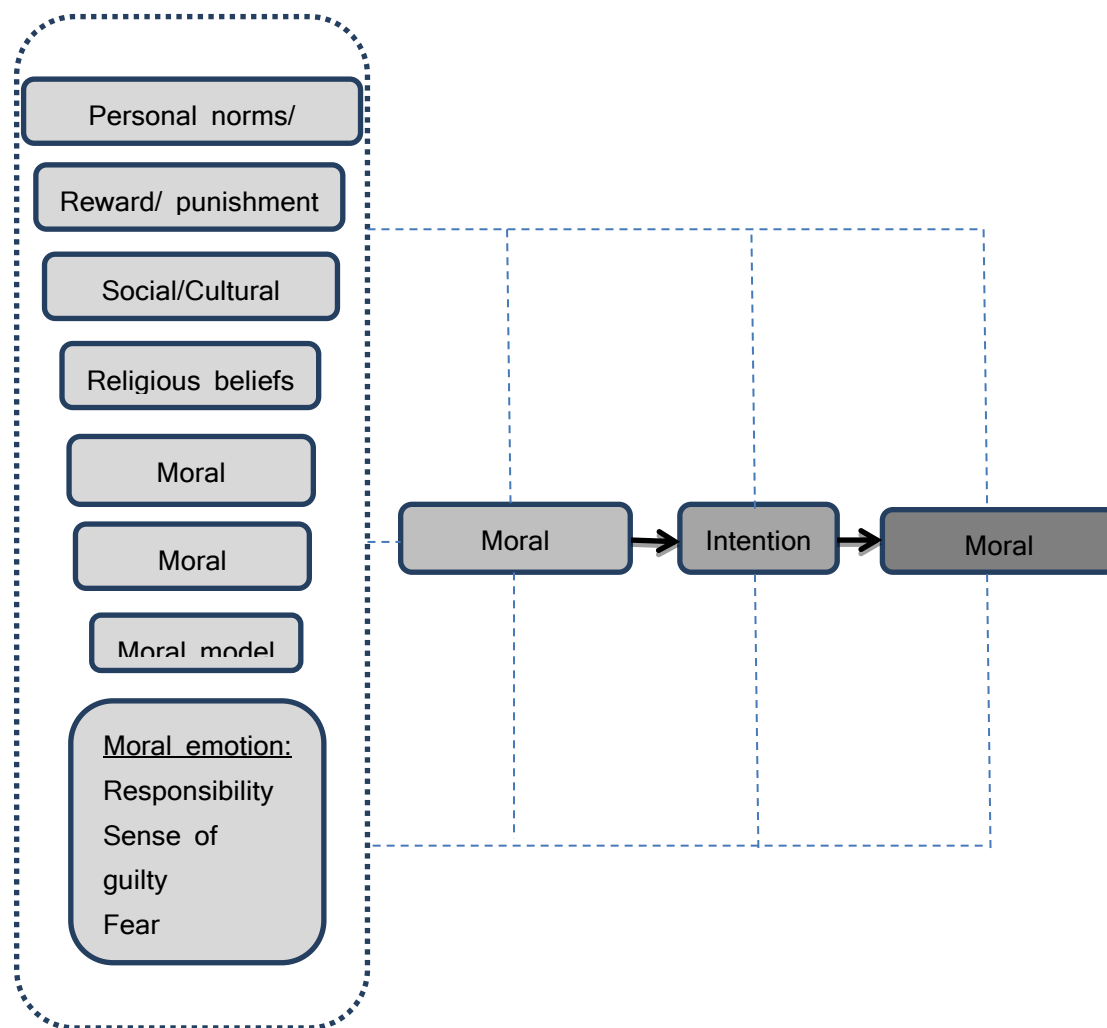
Element	Moral Behaviorism	Psychoanalytic Theory	Structural-Cognitive Theory	Social Learning Theory	Moral Character and Identity	Marxism	Religious/ Islamic Ethics
Pioneers	B.F. Skinner	Sigmund Freud	Piaget/ Kohlberg	Alert Bandura	Blasi	Karl Marx	God/Prophets
Normative Ethics	Individual Relativism	Deontological Ethics	Deontological Ethics	Cultural Relativism	Virtue Ethics	Cultural Relativism	Religious Doctrine
Morality Dimension	Moral Behavior	Moral Character	Moral Thinking/ Reasoning	Moral Behavior/Emotion	Moral Virtues	Cultural Norms/ Personal Norms	Moral Intention/ Behavior/ Virtues
Selection of Focus of Morality	-	Superego: Internalization of Cultural Norms	System of Rules	Internalization of those Societal Norms	Wisdom	Internalization of Societal Norms	Obedience to Authority
Length of Development	Whole Life	The Greatest Changes Occurring over the Firth two Decades of Life	From Infancy- Old Age/ (6-12 Old)	Whole Life	Whole Life	Whole Life	Whole Life
Moral vs Immoral Principles	Individual Relativeness	Cultural Relativeness	Cultural Relativeness	Cultural Relativeness	Moral Norm	Social Norms	Absolute Moral Principles
Sources of Evidence	Scientific Approach (Empirical	Scientific Approach (Psychoanalytic	Scientific Approach	Scientific Approach	Wisdom/ Philosophy	Historical Approach	Holly Book

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	Data)	Therapy)	(Empirical Data)	(Empirical Data)			
Moral Human Nature	Amoral	Amoral	Amoral	Amoral	Amoral	Amoral	Moral/ <i>Fitrah</i>
Personality Structure	-	Id, Superego	Ego, Schemes/ Assimilation- Accommodation	-	-	-	Lust, Justice and Wisdom
Causal Factor	Environmental Past Experience: -Punishment -Reward	-Heredity -Environment	- Individual's Level of Logical Reasoning - Environment - Social Transmission	-Cognitive sources -Affective Sources	-Environment - Moral Models	-Environment -Class Conflict	- <i>Fitrah</i> -Satan -Environment
Moral Development Stages	-	5 Stages of Psychosexual Development	Moral Reasoning Level: Pre-Conventional, Conventional, Post-Conventional	-	-	-	-
Moral Education Strategies	-External Punishment -External Reward	Psychoanalytic Therapy	Moral Dilemmas	-External and Internal Rewards and Punishments -Moral Models	-Philosophy -Moral Models	-Education -Force	-Reward/ Paradise -Punishment/ Hell -Moral Models/Prophets -Holly Book/Quran



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**Figure 5: Conceptual Framework of Moral Development**

## Conclusion

Growing demands for, and misuse of, water resources led to increase the frequency and intensity of local and national water crises in many countries, especially Africa and Asia. These crises affect environmental sustainability, food security, and economic development. While natural factors such as climatic and geomorphological conditions cause water crisis, but anthropogenic factors like population growth, water users' immoral behaviors increase water crisis.

Ethical concepts have a direct practical relevance in water resource management through preparing both the source and normative content of a particular decision. In this regard, water ethics, as the sub discipline of environmental ethics, may be viewed as another aspect of existing concerns over the value of nature or regulating best management practices in natural resources policy. Different stakeholders such as experts, agricultural water users, policymakers and legislators have duties and responsibilities for ensuring water ethics.

Describing stakeholders' moral values and behaviors need to recognize their moral development process. For this purpose, ethical philosophers and moral psychologists present some viewpoints and theories. Moral development theories have focused on the origins and change of morality from infancy through adulthood.

In recent decades, moral psychologist's efforts led to emerge moral theories such as Psychoanalytic Theory, Cognitive Structuralism, Social Learning or Social Cognition. These moral theories intended to

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account for how and why people grow up ethically. Marxist and religious doctrines also have moral development viewpoints that can be useful.

The present study aimed to explain and compare these moral development theories for presenting an appropriate moral development framework. According to moral development theories, the factors such as personal norms/ superego, past rewards and punishments, social/cultural norms, personal religious beliefs, moral knowledge, moral reasoning level and moral emotions can perform moral judgment and actions.

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