

## **Relative Effects of Modernity- Survival and Tradition- Self-expression Values on the Attitudes About Environmental Philanthropy: A Multilevel Cross-National Analysis**

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### **Abstract**

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*The current discourses on development generate a huge debate on the relationship between modern-capitalist spirit and environmental degradation. The modernist development discourses credit the modern-rational social structure and inherent cultural underpinning for “progress”, while the contrasting scholarly camp blames the modernity principles tagged with capitalist economic systems for the “curse” of progress imposed on the environment. The debate is yet to settle on the outcome of modernity. However, research is minimal on the effects of modernity and post-modernity principles on people’s attitudes toward sacrificing personal material resources (e.g. income) for the maintenance of a sustainable environment. The modern aspect of life necessarily promotes individualism, which emphasizes personal gains, and therefore, individualist (and modern) persons do not spare own resources for collective gains, of which environmental protection is one. By contrast, traditional views and lifestyles create avenues for collective gains, thereby holding the attitude towards serving the environment by sacrificing personal non-environmental resources for the betterment of the community. Based on a recent formulation (Inglehart and Welzel, 2005) the present study assesses whether the increasing post-modernist views inherent in people’s self-expression and traditional values endorse people’s philanthropic attitude towards maintenance of soundness in the environment, whereas people who put excessive importance on survival are less interested in sacrificing non-environmental resources. To do so, the study conducts multilevel modeling using the World Values Survey datasets for 78 countries in four waves (1981-2004). The findings suggest that the post-modern values (i.e. self-expression and traditional values) have significant effects on an individual’s willingness to sacrifice material resources to maintain a healthy environment. Also, the cultural distinctiveness influences the effects of the individual level predictors including modernity vs. post-modernity values.*

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The debate on the relationship between modern-capitalist spirit and environmental degradation is overwhelming in development literature. The modernist development discourses (e.g., Inkeles, 1974; Myrdal, 1968; Rostow, 1960, etc.) contend that the modern-rational social structure and inherent cultural underpinning in several societies of the west brought “progress”, while the contrasting scholarly camp (e.g., Anderson and Leal, 1992; Shiva 2000, 2013, & 2015; Spaulding III, 1997; Sweezy, 2004) blames the modernity principles tagged with capitalist economic systems for the “curse” of progress imposed on the environment. The debate is still on, although research is minimal on the effects of modernity principles on people’s attitudes toward sacrificing personal material resources (e.g. income) for the maintenance of a sustainable environment. Some indirect links can be shown, however. The modern aspect of life necessarily promotes individualism, which emphasizes personal gains, and therefore, individualist (and modern) persons do not spare own resources for collective gains, of which environmental protection is one. By contrast, traditional views and lifestyles create avenues for collective gains, thereby holding the attitude towards serving the environment by sacrificing personal non-environmental resources for the betterment of the community. Based on a recent formulation (Inglehart & Welzel, 2005) we argue that the increasing post-modernist views inherent in people’s self-expression values construct a “social bridge”, which endorses people’s philanthropic attitude towards maintenance of soundness in the environment, whereas people who put excessive importance on survival are less interested in sacrificing non-environmental resources.

The present paper defines post-modern beliefs as a combination of values in tradition and self-expression. In our view, the post-modern move of human psychology is based on passing or bypassing of the modernity phase as outlined by modernization scholars. The effects of values related to modernity vs. traditional views and self-expression vs. survival values (in combination, tradition, and self-expression compose post-modern values when the other two construct modernity principles) on environmental philanthropic attitude measured by the purpose of providing money and giving tax for keeping the environment sound are scrutinized in the present study.

The conceptual overture explaining the philanthropic attitudes of people can be traced back to classical theories in Sociology. In his writing on the consequences of the enclosure acts in England, Marx (1971) indicated how social safety nets supported by the traditional community were removed. These safety nets included peoples’ collective wellbeing promulgated by the “pre-industrial” willingness to help others. Marx’s other writings, such as on “alienation”, also followed the same track in indicating the result of the transition from the pre-industrial or traditional form of society to modern-rational-industrial society. Based on his major predilection on the relationship between the change in the mode of production and ideas, and as such, philanthropic beliefs, the corollary of Marx’s theory is that the people in capitalistic societies are less philanthropic than traditional ones.

While greatly differing with Marx, Tönnies’ (2001) distinction between *gemeinschaft* and *Gesellschaft*, as well as Durkheim’s (1977) distinction between mechanical and organic solidarity linked the shift to significant moral or legal transformation contributing to very different ways of life, which could bring “one-dimensional” men (Marcuse, 1991) to the fore, and these one-dimensional men look for personal short-term benefits by using rationality principles. The personal benefits, thus, do not include long-term loss, and therefore, western-rationality brings short-term benefits only. The short-term individualistic benefits give birth to considerable risks for societies, such as ecological problems (Beck, 1992 & 2009; Beck, Giddens & Lash, 1994; Giddens, 2009).

Beck (1992) criticized the claim that Western societies are “postmodern”, but his immanent critique of modernity’s “failed promises” led him to conclude that contemporary society is at the cusp of a transition between “industrial society” and “risk society”. To conclude, Beck labels the “risk society” as an outcome of the industrial revolution. He considers the “reflexive modernization” as the “hair of the dog”, a necessary but not sufficient condition for dealing with risk. Beck called for new awareness about the risks in society; this new awareness is “second modernity” which transforms industrial society into information-based network collectivity, which has bases in more reflexive modernity. The corollary of Beck’s formulation can be derived as follows: because of the impacts of the second modernity, the general public may participate in actions to maintain the society out of risks, of which environmental degradation is one.

In connecting Beck with the current analysis, a corollary is that the huge extraction of resources from nature/environment is one such risk that has captured a massive sphere in today’s development discourses. In this connection, “Giddens’s Paradox” (Giddens, 2009) is an excellent point to bring in.

According to this paradox, the general public of the society is often less concerned about climate even though experts in the field continuously alert the world about the nature and intensity of anthropogenic climate change. While the Giddens' Paradox has a strong point, the roles of individual actors in society need to be examined from an empirical point to assess the merit of this paradox.

The discourses on the relationship between modernity and environment are mostly involved with figuring out the macro-level actors in environmental degradation as well as protection. However, scholars mentioned above have largely addressed the linkages between macro and microstructures- of which individual agency is a part. To overcome the risks incurred by a particular social system, one may respond in various ways. One such response includes one's willingness to contribute material resources for triumphing over the socio-environmental problem. The debate about modern vs. postmodern values comes to the fore in this regard.

Inglehart and Welzel's (2005) two-dimensional scheme (modern/secular/rational vs. traditional, and self-expression vs. survival values) for value orientation largely put one of each dimension on the same pole of cultural understanding of values. Thus, one with modern and self-expression values is thought to be more contributing to the wellbeing of community while one with traditional and survival value orientations emphasizes more on individual gains. We differ with Inglehart and Welzel (2005) on this point.

If we were to accept Inglehart and his colleagues, the citizens of many societies, such as Bangladesh, Egypt, Nigeria, Uganda, Tanzania, and Zimbabwe (cited in Inglehart & Welzel, 2005, p. 290) would not have accepted emancipative values supporting the wellbeing of communities as much as their counterparts with high self-expression values did. Some recent studies (e.g. Davis & Robinson, 2006; Inglehart & Welzel, 2005) provided evidence that the public of these countries supported values that enhanced emancipative attitudes, which promoted philanthropic values even when they had high levels of traditional values, such as strong religious beliefs. Why does the public of these countries have values encompassing the wellbeing of their communities even though they have low self-expression values? What can explain the loophole in the theoretical overture of Inglehart and his colleagues? We argue that the belief and confidence in traditional values create some sort of commitments to the community when they also hold self-expression values. This interpretation may extend Tonnies' view of bridging ties or Durkheim's "organic solidarity" into a combination of both bonding and bridging ties, and thus, the post-modern or late modern societies conglomerate both tradition and self-expression. People in societies with this combination emphasize more on traditional values while holding self-expression values as well.

The late modern societies are now abandoning many aspects of earlier modern societies including second modernity principles of the 1960s (Scott and Braun, 2006). Therefore, the late modern or post-modern societies do not have to emulate the western developed countries, and thus, societies with strong traditional values could become postmodern if they hold self-expression values as well. So, in our understanding post-modern phase of a society can bypass modernity when self-expression values are present. In our view, post-modern people hold a combination of traditional and self-expression values, not the modern/rational and self-expression values. This is what we call the humanistic reading of tradition that the modernization thinkers often ignore.

Based on the above discussion, two corollaries in the forms of propositions can be derived. First, compared to the traditional and pre-industrial people, the modern-rational individuals base their worldviews more on the application of the most efficient means to achieve given goals but are less concerned about prospective large unintended and negative consequences of such applications. While noticing such consequences, the modern-rational one-dimensional men may decline contributions to the fixing such problems (e.g. environmental degradation), since these contributions may not bring "individual" benefits for them at the moment.

Second, the first proposition exists because the modern-rational one-dimensional man emphasized the survival of the "individual", not on the wellbeing of the community as a whole. Concerns about the wellbeing of the community require some sort of actualization of the "self" that makes individuals aware of the community problems. Therefore, compared to the people with the combined values of self-expression and tradition, which we use as the proxy of "post-modern" or late modernity values, individuals with the amalgamation of "modern" values that include rational and survival values are less likely to bear willingness for philanthropic activities. These activities include environmental philanthropy as well. Simply put: people holding post-modern values (a combination of tradition and self-expression) are more likely than people holding modern values (a combination of rational/secular and survival values) to have the willingness to contribute to environmental philanthropy.

The present paper tests the above propositions with two major hypotheses:

- 1) The higher levels of traditional values promote environmental philanthropic attitudes measured by willingness to sacrifice income and money as tax.
- 2) The higher levels of self-expression values promote environmental philanthropic attitudes measured by willingness to sacrifice income and money as tax.

#### Data and Method:

As previously mentioned, our definition of post-modern values captures two components: tradition and self-expression. The opposite values, such as modern and survival values represent modernity principles in society. To test the propositions outlined above, two hypotheses have been formulated. The first hypothesis requires the test for the effects of rational-secular-modern vs. traditional-conservative values on environmental philanthropy. As indicated earlier the modern-traditional dichotomy relates to rational-“non-rational” world views about life. Rational thinking is an outcome of enlightenment, which is largely called modernity in literature. Weberian thesis confirmed that the spirit of capitalism was inherent in Protestant ethics, which prevailed in Europe by enhancing capitalism. Although these specific types of values originated in Protestant ethics, the prevalence of Protestant ethics in Catholic and other European societies (e.g. France, Belgium) spread gradually. Thus, people adhering to rational values are more likely to have less inclination towards religions, values related to religion, and authority of any sort. As the Weberian scheme suggested rational-secular-modern values move people towards actualizing personal gains by using effective tools. Therefore, our hypothesis tests whether values motivating gains or profits, compared to the opposite values, which promote an environmental philanthropic attitude. The measure of value orientation around the secular-modern-rational vs. traditional scheme is illustrated as follows.

Secular/ Rational vs. Traditional values: Inglehart and Welzel (2005) use five items from World Value Surveys, and calculate factor scores to measure Secular/ Rational values vs. Traditional values. The positive pole indicates Secular/Rational values. The items that are emphasized by traditional values are (secular/rational values emphasize the opposite):

“God is very important in the respondent’s life,”

“It is more important for a child to learn obedience and religious faith than independence and determination (Autonomy index),”

“Abortion is never justifiable,”

“Respondent has a strong sense of national pride,” and

“Respondent favors more respect for authority.”

The factor loadings are adequate. The data on these items were collected at individual levels in four waves in 78 societies beginning in 1981. This study uses the averages of factor scores for developing countries from the wave of 1990. Data are available on the World Values Surveys (World Values Surveys, 2015) website.

Our hypothesis regarding modern vs. traditional values is:

H1: When one holds more traditional than modern values, one’s willingness towards environmental philanthropy is higher than others.

The second part of our hypothesis requires self-expression vs. survival values to be explained. Self-expression values relate to the post-modern aspect of social life. These values promote a humanistic approach that overrules the egocentric approach, and therefore self-expression or post-modern attitudes correspond with the quality of life as well as the satisfaction of life. These also relate to “bridging ties” instead of “binding ties”. The bridging ties make people more conscious about collective well being, of which environmental protection is one, and contributing to saving the environment is an outcome of this attitude. When people have these values, they may protest against social or political evils. This protest may be made known by circulating petitions. Since people with self-expression intend to construct bridging ties among people of society, they accept all orientations in society, such as all sexual orientations. By the same token, trusting people is another component of self-expression. In constructing bridging ties, the members of society should have trusted each other. The opposites to the aspects of the propositions for self-expression outlined here denote survival values, because these opposites necessarily reflect egocentric instead of a humanist aspect of social life. Therefore, survival values do not support environmental philanthropy.

Based on the above description, we measure survival vs. self-expression values as follows:

Self-expression vs. Survival values: Inglehart and Welzel (2005) use five items from World Value Surveys to calculate factor scores to measure Self-expression values vs. Survival values. The positive pole indicates Self-expression values. The items that are emphasized by Survival values are as follows (Self-expression values emphasize the opposite): “Respondent gives priority to economic and physical security over self-expression and quality of life (4-item Materialist/ Postmaterialist Values Index<sup>ii</sup>)”, “Respondent describes self as not very happy”, “Homosexuality is never justifiable”, “Respondent has not and would not sign a petition”, and “You have to be very careful about trusting people”. The factor loadings are adequate. The data on these items are collected at individual levels in four waves since 1981 in 78 societies. This study uses the averages of factor scores for developing countries from the wave of 1990. Data are available in Inter Consortium for Political and Social Research (ICPSR) website.

Our hypothesis regarding self-expression vs. survival values is as follows:

H2: When one holds more self-expression than survival values, one’s willingness towards environmental philanthropy is higher than the other.

The first set of control variables includes cultural distinctiveness. Following the Weberian thesis, we argue that cultural distinctiveness is very important in affecting environmental philanthropic attitude. Protestant ethics developed in particular countries of Europe, which later spread to other countries in Europe with the result that Protestant countries were more advanced when compared to other Christian and non-Christian groups. Conceptually, therefore, modernity vs. traditional and self-expression vs. survival principles vary in terms of countries’ regional and cultural distinctiveness as indicated by Inglehart and Welzel (2005). The analysis of the effects of cultural distinctiveness delineates the macro structural influences on individual value systems.

We argue that the African cultures in general practice more traditional lifestyles than others, and therefore, it is theoretically reasonable to make African cultures a reference category. We keep the other cultural distinctions separate because, clearly both the western Protestant and Catholic regions of the world have positive standing on both secular/modern/rational and self-expression values whereas both Orthodox and central or western Christianity, as well as Latin and Caribbean countries, are positive on secular values, but negative on self-expression. While all others including Islamic countries are negative on both dimensions, the Sinic/Confucian/Hindu/Buddhist countries are closer to positive on both dimensions. We dummy coded all categories where 1 denotes the culture concerned, and 0 is used for all others. We combined Inglehart and Welzel’s (2005) cultural map with that of Huntington’s (2011). In addition to assessing the effects of cultural distinctiveness, we estimated how this distinctiveness affected individual willingness to contribute to environmental improvement.

We have two hypotheses regarding cultural distinctiveness.

H3: Compared to African cultures, other cultures have lower levels of willingness towards environmental philanthropy.

H4: Compared to African cultures, the effects of one’s traditional values on environmental philanthropy are reduced by other cultures.

H5: Compared to African cultures, the effects of one’s self-expression values on environmental philanthropy are reduced by other cultures.

Concerning the above, we take the human development condition of a country, which is a macro level variable, to evaluate the effects on our dependent variables. These effects are particularly important to assess the claim presented by modernization theorists about whether it is necessarily true that the people in the developed countries with the nexus of modernity and self-expression values are more philanthropic than others, and whether countries’ socio-economic condition influence individual willingness to contribute to environmental fixing. Following the Human Development Report 1998, we code “Low”, “Medium”, and “High” human development index as 0, 1, and 2 respectively. The Human Development Index is constructed based on countries’ attainments in income, education, and life expectancy.

Our hypotheses regarding countries' socio-economic condition are as follows:

H6: Countries with higher levels of socio-economic conditions are more likely to promote environmental philanthropy.

H7: The positive effects of individual values about tradition on environmental philanthropy are increased by the socio-economic condition of a country.

H8: The positive effects of individual values about self-expression on environmental philanthropy are increased by the socio-economic condition of a country.

In a general sense, old people are thought to be less philanthropic. To test this relationship regarding material sacrifice for the environment, we measure age by young and not-young, where young is considered at or below 26 years old, and not-young is considered above. Thus, age is a dichotomous variable that codes young as 1 and not-young as 0. Since married people are normally more cautious about spending money for philanthropic reasons, we tested the effects of marital status where 1 denotes "married" and 0 means "all other" groups. For sex, 1 is coded for males and 2 is for females. The hypothesis can be presented as follows:

H9: Young rather than old people are more philanthropic for environmental protection.

To assess the impacts of one's socio-economic background, we include two variables: education and income. Education is measured by 0 through 2 point scale, where the highest educational attainment is coded as 2, medium as 1, and the lowest is coded as 0. This variable was recoded from the original variable of education where the lowest value was assigned for "inadequately completed elementary education," and the highest value was assigned for "university with a degree."

H10: Higher educational attainment promotes environmental philanthropy.

Income is also measured by a low to high scale with values 0 through 2. The high-income group is coded 2, the medium is 1, and the low is coded as 0. This variable was also recoded from the original variable of a 10 point scale, of which 1 denotes "lowest step," and 10 denotes "10<sup>th</sup> step." In general, people with higher socioeconomic status do not want to spend money for philanthropic reasons.

H11: Higher-income level promotes environmental philanthropy.

Another significant control we added to the above was an issue of whether the respondent is the chief wage earner for the family. We included this control from the idea that the financial position of one within a family may put one in a somewhat unfavorable position regarding spending money for the community, since the person may not feel at ease spending his earning for others outside the family. This is a dichotomous variable. The respondent was asked whether he was the chief earner for the family. The answers were coded as 0 for "no", and 1 for "yes".

H12: If one is a chief wage earner for one's family, one has less willingness to contribute to environmental philanthropy.

Dependent Variables:

We mentioned earlier that the environmental philanthropic attitudes have to relate to sacrifice material resources. To address this, we chose two variables from the World Values Surveys. Surveys were conducted for four waves: 1981–84, 1989–93, 1994–1997, and 1999–2004. In the original World Values Surveys, the respondent was asked two questions: a) whether he or she wants to give his/her income, and b) whether he or she intends to pay tax for the sustainability of the environment. The responses were recorded on a 1–4 point scale where 1= strongly agree, 2=agree, 3= disagree and 4= strongly disagree. We collapsed these answers for each question into two categories and did reverse codes. Therefore, for our analysis, we collapsed "Strongly Disagree" and "Disagree" as "Do not agree to contribute," which is coded as "0," whereas "Strongly Agree" and "Agree" categories are coded as "1" denoting "Agree to Contribute." The same scheme was followed for the variable expressing whether one wants to pay tax for environmental gradation.

Analytical Strategy:

As our discussion indicates, individual-level values about tradition vs. modernity, and self-expression vs. survival are our major independent variables. However, in analyzing any socio-cultural factors, the socio-historical contexts of individuals are also important. The theoretical framework touched on contextual issues, for example, Protestant ethics and the role of the spirit of capitalism at individual levels.

Therefore, we must examine how socio-historical contexts influence the individual level values about tradition vs. modernity and self-expression vs. survival on environmental philanthropy. Likewise, we also included the socio-economic condition of countries as one of the significant factors influencing individual-level predictors in affecting dependent variables. Therefore, the present study takes a hierarchical logistic regression modeling (multilevel regression) approach using the HLM 6.05 software (Raudenbush, et.al. 2004). Applied to our hypotheses, multilevel regression estimates how individuals' values affect environmental philanthropy, and also how these effects are modified by socio-historical contextual levels while the contextual variables directly influence environmental philanthropy too. Formulating our analyses, in particular, it means conceptualizing individual-level measurements as having a hierarchical structure in which individual-level observations (level 1) are nested within socio-historical levels of the country (level 2) where the individual lives.

Multilevel regression explains the non-independence of individual values across societies within the same regional distinctiveness. Also, multilevel modeling is efficient when there are missing values at individual levels particularly in cross-national analyses, while minimizing the likelihood of under-sampling of any country. These two advantages strengthen our choice for multilevel modeling. Following Luke (2004), we present three models to estimate our hypotheses. The individual-level model presents effects with errors in Level-2 followed by "the intercept only" model that includes the effects of regional distinctiveness and socioeconomic conditions of societies. The third model includes slopes or random coefficient models, which tells us whether cultural distinctiveness and socio-economic conditions influence the individual-level effects.

#### Results:

Table 1 includes means and standard deviations for modernity vs. traditional values, self-expression vs. survival values, individual and country-level socioeconomic conditions as well as the dependent variables. Among the cultural constructs, the African, Islamic, and Latin American countries are more traditional categories which are close candidates considered as more traditional societies, whereas Protestant countries have higher levels of self-expression values than others (Figure 1). The oriental societies are not behind Western Protestant countries on attitudes about environmental philanthropy. As previously mentioned, among the three candidates we chose African societies as the reference category.

Also mentioned earlier, we used three models: the first model included the effects of all individual-level variables while the next model showed the direct effects of level-2 variables. The final model included cross-level interactions in addition to direct effects. The deviance statistics (Table 2) for the models also show subsequently improved fits of models. Table 3 presents random-effects variance components, which are non-zero, and therefore, there is significant un-modeled variability in each model. However, the random coefficient models for each dependent variable are the best among the three models presented. Thus, the inclusion of cross-level effects in the final model is appropriate for our analyses.

Table 2 begins with the individual-level variables. Throughout, we present the odds-ratios. Model 1 presents the effect of the individual-level characteristics with level-2 errors. There is a very little fluctuation in the effects of the individual characteristics on separate dependent variables throughout Models 1 through 3. Age, education, and income are significant predictors for both dependent variables. Young people are more likely than older people to intend to sacrifice income and pay tax by around 32 percent and 22 percent respectively. The effects of education and income follow the same direction in affecting the willingness to sacrifice income and pay tax. In addition to age, education, and income, marital status is also significant for willingness to pay tax to protect the environment.

Self-expression/ survival values have significant effects in all three models for both dependent variables, while modern/traditional values are not significant when cross-level interactions are added to this variable. Modern/rational values are less likely than traditional values to promote philanthropic attitudes, while self-expression values are conducive towards sacrificing income and paying tax.

The first and second models, however, indicate that people with traditional values are more likely than their modern counterparts to be philanthropic for environmental protection. In all three models, the effects of age support our hypothesis that younger people are more philanthropic than older people in protecting the environment. Also, the idea that higher socio-economic status leads to holding philanthropic views is supported. Sex and a person's position as the chief wage earner in the household are not significant in either of the models.

In intercept models, people belonging to the level-2 reference category African cultures with the lowest human development achievement are more likely than non-African societies, in general, to intend to sacrifice their incomes for protecting environments. Compared to African cultures, Western Catholic and Central European cultures have a significant negative impact on peoples' attitudes towards spending income for the environment. The intention of people to pay tax is affected positively by Western Protestant, Latin/Caribbean, and Sinic/Confucian/Hinduism when compared with African cultures.

As far as human development conditions were concerned, the lower levels promote peoples' sacrificing attitudes through paying tax, although this does not have any significant effect on sacrificing income. Each unit increase in human development conditions for a country decreases peoples' attitude towards paying tax by 26 percent.

Are Individual Values of Modernity/ Tradition and Self-expression/ Survival Influenced by Socio-Cultural Contexts Where Individual Live?

The random coefficient model (Model 3) assesses the cross-level interactions for cultural distinctiveness variables, human development conditions, and modern/traditional as well as self-expression/survival values. Therefore, Model 3 has simple effects for modern/traditional and self-expression/survival values as well as human development conditions and dummy variables for cultural distinctiveness. Thus, we have both simple and interaction effects for these variables.

For African cultures and low human development conditions in a society, one's modern/traditional values do not have any significant effect on either of the variables that represent environmental philanthropy, while one's self-expression values in the same societal context increase the willingness to contribute to environmental protection.

Likewise, compared to African cultures, only Western Catholic societies have a significant negative impact on one's willingness to sacrifice income when one does not have modern (zero points) values. By contrast, however, Latin/Caribbean, Western Protestant, and Sinic/Confucian/Hinduism significantly increase peoples' philanthropic attitude when people are more traditional.

The cross-level interaction effects are fairly robust. For interactions between modern/traditional values and cultural contexts, all interactions but one between Western Protestantism and values concerned are significant towards the negative direction. Thus, for example, in Islamic societies, compared to African cultures, one's higher levels of modern values decrease one's willingness to sacrifice income and to pay tax by 58 and 51 percent respectively. Other significant interaction effects can be concluded in the same way.

For interactions between self-expression/survival values and cultural contexts, all interactions but between Western Protestantism, Orthodox, and values concerned are significant towards the negative direction. Thus, for example, in Islamic societies, compared to African cultures, one's higher levels of self-expression values decrease one's willingness to sacrifice income and to pay tax by 57 and 43 percent respectively. Other significant interaction effects can be concluded in the same way.

The interactions between values and the human development context of a country do not influence peoples' philanthropic attitudes significantly.

### Discussion & Conclusion

Our findings supported important hypotheses of the current study. First, traditional and self-expression values promote environmental philanthropy. This thesis is also supported by the link between regional and cultural distinctiveness. Our second important derivation, therefore, indicates that a culture representing more traditional values than others are more likely to influence individual beliefs towards environmental philanthropy. Third, the modernity principles, as opposed to traditional and self-expression values, have negative effects on such ideology. This follows the theoretical connection between the modern capitalist as well as rationalist principles and insensitive ideology towards the environment. A very important reason for such insensitivity is the prevalence of profit maximization, which is the result of the dominant ideology of modern rationality inbuilt in capitalism. Fourth, another interesting point is that individual modernity principles are greatly affected by the regional and cultural distinctiveness to negatively affect environmental philanthropy. Fifth, the low socio-economic condition of a country is conducive to supporting one's willingness to pay taxes for protecting the environment. This supports the earlier point of the positive effects of traditional values on the beliefs towards environmental philanthropy. Sixth, most countries with low socio-economic conditions have prevailing traditional values.



In the intercept models, people belonging to the African cultures with low human development achievements are more likely than non-African societies, in general, to intend to sacrifice their incomes for protecting environments. Seventh, among the individual demographic characteristics, age, education, and income are significant predictors for both variables reflecting the beliefs of environmental philanthropy.

Based on the overall findings, the effects of both cultural values and regional distinctiveness are very important factors in affecting environmental philanthropy. The derivations in the current study, however, require further examination of the hypotheses on a larger sample of countries and timeframes. Also, more variables on environmental philanthropy could be added. These include the variables from political institutions and the consequences of environmental philanthropy itself.

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Table 1: Means and Standard Deviations for All Cultural Groups

Variables	Cultural Groups: Combined and Separated																	
	All		Islam		African		Latin/Carr.		Western Protestant		Western Catholic		Orthodox		Central European Christianity		Sinic/Confucian/Hinduism	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Modern vs Traditional values	-.007	1.000	-.596	.724	-.586	.719	-.417	.783	.332	1.057	.213	1.006	.524	.893	.565	1.00	-.021	.864
Self Exp vs Survival Values	-.015	1.000	-.439	.785	-.155	.878	.051	.891	.705	.928	.253	.967	-.782	.883	-.313	.938	-.058	.828
HDI Class	1.480	.575	.750	.512	.817	.387	1.30	.458	2.000	000	2.000	000	1.13	.337	1.703	.457	1.488	.500
Income Class	.954	.793	.910	.777	.897	.821	.930	.802	.945	.796	1.004	.780	.930	.806	.980	.774	.990	.800
Education Class	.849	.741	.814	.776	.725	.673	.818	.752	.897	.776	.747	.737	.980	.674	..867	..686	.935	.757
Sacrifice Income	.687	.464	.771	.420	.603	.489	.754	.430	.651	.477	.627	.484	.688	.464	.712	.453	.755	.430
Pay Tax	.593	.491	.643	.479	.472	.499	.631	.483	.606	.489	.501	.500	.614	.487	.564	.496	.654	.476

Table 2: Results of Hierarchical Generalized Linear Logit Model (HGLM) Predicting Whether People Wish to Sacrifice their Income and Whether They Want To Pay Tax for Environmental Protection (Odds Ratios are provided)

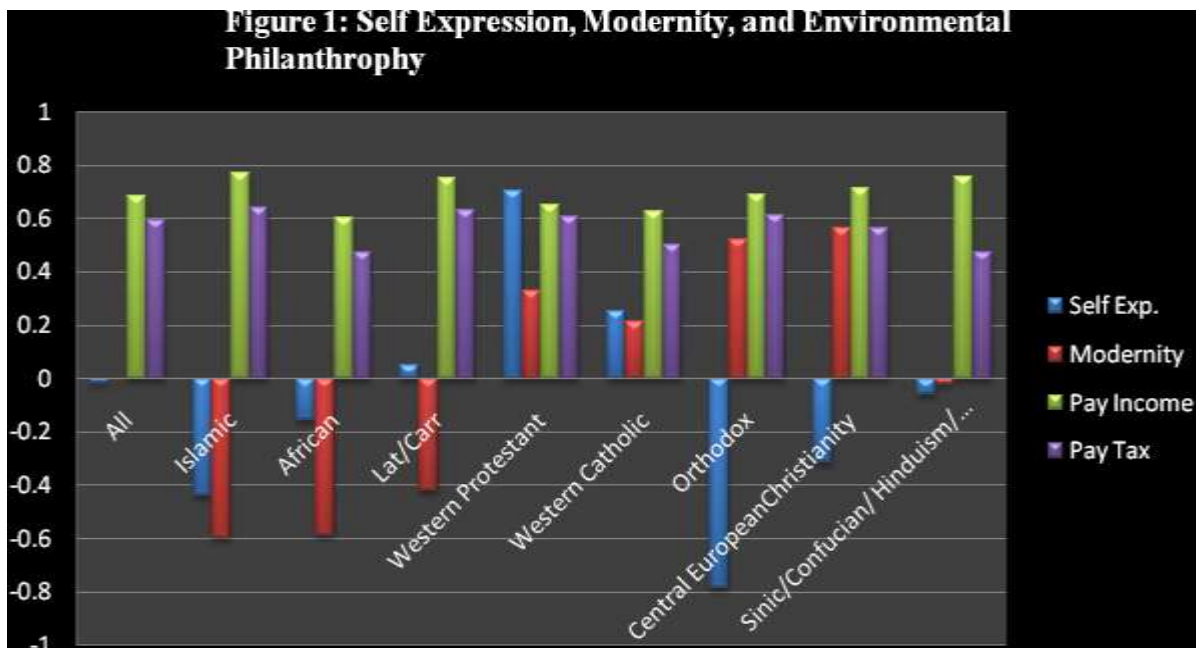
Fixed Effects	Model 1 (Level 1 Only)		Model 2 (Intercept)		Model 3 (Random Coefficient)	
	Income	Tax	Income	Tax	Income	Tax
Intercept	1.686***	1.179	2.562**	1.335	1.874*	1.192
Individual Level:						
For Age slope	1.320***	1.218***	1.316***	1.216***	1.318***	1.216***
For Sex slope	.950	1.008	.950	1.009	.951	1.009
For Education slope	1.270***	1.194***	1.267***	1.193***	1.269***	1.196***
For Chief Wage Earner slope	.940	.960	.942	.961	.942	.960
For Income slope	1.115***	1.080**	1.115***	1.080**	1.115***	1.079**
For Married slope	1.054	1.063*	1.053	1.063*	1.052	1.063*
For Modern/Tradition slope	.857***	.882***	.855***	.880***	1.117	1.070
For Self Expression/Survival slope	1.381***	1.339***	1.381***	1.341***	1.671***	1.716***
Country Level:						
Islam			.810	1.172	1.337	1.421
Latin/Caribbean			.728	2.033	1.258	2.414*
West Protestant			.617	1.980	.928	2.209*
West Catholic			.403*	.885	.593	1.087
Orthodox			.599	1.157	.830	1.354
Central European			.372*	1.003	.600	1.204
Sinic/Confucian/Hindu			1.314	2.615*	1.918	3.047*
HDI Classification			1.055	.742	1.002	.721
Cross Level Interactions Between Cultural Distinctiveness and Modern/Tradition Values:						
Islam					.708***	.749*
Latin/Caribbean					.725***	.798*
West Protestant					.774*	.841*
West Catholic					.754***	.753*
Orthodox					.753**	.776*
Central European					.706***	.750*
Sinic/Confucian/Hindu					.718**	.802*
HDI Classification					1.002	1.031
Cross Level Interactions Between Cultural Distinctiveness and Expression/Survival Values:						
Islam					.677***	.744***
Latin					.633***	.626***
West Protestant					.690**	.729**
West Catholic					.746*	.679***
Orthodox					.833*	.753**
Central European					.700*	.729**
Sinic/Confucian/Hindu					.763*	.737**
HDI Classification					1.079	1.055
Deviance	81132.61	145539.41	81114.65	145510.94	81086.49	145481.82

Table 3: Comparison of Random Effects Estimates for Restricted Maximum Likelihood

Random Effects	Variance Component						Chi-Square*					
	Income (Models)			Tax (Models)			Income (models)			Tax (Models)		
	1	2	3	1	2	3	1	2	3	1	2	3
Intercept, $U_0$	.448	.317	.304	.398	.234	.232	1506.13	1286.30	1118.25	2316.34	2224.62	2204.40
Modernity/Tradition, $U_1$	.009	.010	.003	.010	.010	.005	91.16	91.49	69.64	145.45	146.18	110.90
Self Expression/Survival, $U_2$	.023	.023	.011	.017	.017	.010	146.25	145.88	98.63	201.70	201.69	149.96

Notes: \*= All Chi-square values are significant at  $p < .001$  level

Figure 1: Modernity vs. Tradition, Self Expression vs. Survival, and Environmental Philanthropy



<sup>i</sup> Please see Inglehart and Welzel (2005) for details on Autonomy Index.

<sup>ii</sup> Please see Inglehart and Welzel (2005), Inglehart and Baker (2000) for details on Materialist and Post-materialist values.