REPUBLIC OF THE PHILIPPINES
COURT OF APPEALS
MANILA

SPECIAL THIRTEENTH (13th) DIVISION

GREENPEACE SOUTHEAST ASIA (PHILIPPINES), MAGSASAKA AT SIYENTIPIKO SA PAGPAPAUNLAD NG AGRIKULTURA (MASIPAG), REP. TEODORO CASIÑO, DR. BEN MALAYANG III, DR. ANGELINA GALANG, MR. LEONARDO AVILA III, MS. CATHERINE UNTALAN, ATTY. MARIA PAZ LUNA, MR. JUANITO MODINA, MR. DAGOHOY MAGAWAY, DR. ROMEO QUIJANO, DR. WENCY KIAT, ATTY. H. HARRY ROQUE, JR., FORMER SENATOR ORLANDO MERCADO, NOEL CABANGON, MAYOR EDWARD HAGEDORN and EDWIN MARTHINE LOPEZ,
Petitioners,

- versus -

ENVIRONMENTAL MANAGEMENT BUREAU OF THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, BUREAU OF PLANT INDUSTRY AND THE FERTILIZER AND PESTICIDE AUTHORITY OF THE

CA–G.R. SP No. 00013

Members:
DICDICAN, *Chairperson,*
[*]GARCIA-FERNANDEZ, and
ANTONIO-VALENZUELA*, JJ.*

Promulgated:

May 17, 2013

[*] *Acting Senior Member vice J. Elbinias per Office Order No. 206-13-ABR dated May 10, 2013.*

DEPARTMENT OF AGRICULTURE, UP LOS BAÑOS FOUNDATION, INC., UP MINDANAO FOUNDATION, INC., INTERNATIONAL SERVICE FOR THE ACQUISITION OF AGRI-BIOTECH APPLICATIONS-SOUTHEAST ASIA CENTER
Respondents.
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D E C I S I O N

DICDICAN*, J.*:

As the proverb says: *"We do not inherit the earth from our ancestors, we borrow it from our children".* In this civilization that is characterized by seemingly endless possibilities in the field of biotechnology, we are in a continuous search for the development and improvement of our modern industrial economy that would eventually provide a sustainable quality of life for each and every citizen of the Philippines. Our ecology, as much as we wanted to preserve it, is inevitably tampered in the process and put to risk as we continue to search for new methods that are perceived to be more efficient and beneficial for everyone. The proponents of biotechnology claim that it is high-time that the beneficial technologies are introduced into our society. Those who are against them, on the other hand, argue that we would soon experience an ecologic crisis should we allow these developments to influence our way of living.

Consequently, in the midst of the so-called beneficial technologies, we are also unavoidably faced with possible resource depletion and other unintended side effects which they may bring. But are the risks to the environment and to our health worth them? As mere trustees of our children to the use and enjoyment of our ecosystem, could we guarantee its preservation and safety until such time that we turn them over to our children?

Before us is a Petition for Writ of Continuing Mandamus and Writ of Kalikasan[1] ("petition") with prayer for the issuance of a temporary environmental protection order (TEPO) filed by herein petitioners pursuant to A.M. No. 09-6-8-SC, also known as the Rules of Procedure for Environmental Cases, praying, among others, that the public respondents be restrained from conducting the field trials of *bt talong,* a genetically-modified organism, on various locations in the Philippines on the ground that the said field trials violate or threaten to violate the right of the Filipino citizens to a balanced and healthful ecology.

Petitioner Greenpeace Southeast Asia Philippines ("petitioner Greenpeace") is a non-profit domestic civil society organization formed for the purpose of serving as a beacon of public awareness in environmental protection and sustainable development in the country. On the other hand, petitioner Magsasaka at Siyentipiko sa Pagpapaunlad ng Agrikultura ("petitioner Masipag") is another civil society organization which is composed of farmers, scientists and other non-governmental organizations who are all "working towards the sustainable use and management of biodiversity through farmers' control of genetic and biological resources, agricultural production and associated knowledge".[2] Meanwhile, the other individual petitioners were suing as citizens of the Philippines in the exercise of their respective constitutional right to a balanced and healthful ecology and on behalf of Filipinos and of generations of Filipinos yet unborn.

On the part of the respondents, public respondent Environmental Management Bureau of the Department of Environment and Natural Resources ("public respondent EMB") is the government agency which grants environmental compliance certificates (ECCs) relative to its mandate of protecting the environment. Impleaded as additional public respondents were the Bureau of Plant Industry ("public respondent BPI") and the Fertilizer and Pesticide Authority ("public respondent FPA") of the Department of Agriculture which are the government agencies responsible for the

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1 *Rollo, Volume 1, pages 2-73.*
2 *Ibid, page 5.*

issuance of *bt talong* field trial permit and its possible registration as a herbicidal product in the future, respectively.

Private respondents University of the Philippines Los Baños ("private respondent UPLB"), an educational institution, University of the Philippines Los Baños Foundation Inc. ("private respondent UPLBFI") and University of the Philippines Mindanao Foundation, Inc. ("private respondent UPMFI") were likewise impleaded in this petition as the proponents of *bt talong* field trials. Later, private respondent UPMFI was discharged as a respondent-party in this suit pursuant to the manifestation with motion that was filed by the petitioners in order to expedite the proceedings and resolution of the instant petition.

Private respondent International Service for the Acquisition of Agri-Biotech Applications Southeast Asia Center ("private respondent ISAAA") was also made a party-respondent herein, being the international organization which supported the collaborative undertaking and provided assistance for the field testing of *bt talong.*

The instant controversy draws its origin in the Memorandum of Undertaking[3] ("MOU") that was entered into among private respondents UPLBFI, ISAAA and UPMFI which was aimed at undertaking research and development programs for the development of pest-resistant crops. Specifically, the research involved the multi-location field trials of *bacillus thuringiensis ("bt")* eggplant *("talong")*, a genetically engineered eggplant which confers resistance to fruit and shoot borer ("FSB") that is considered as one of the several pests that infest an eggplant. The eggplant itself does not confer resistance but it carries with it a transgene, "cry1AC", that is derived from the soil bacterium *bt* which, in turn, confers resistance to FSB.

In the Field Trial Proposal[4] and Public Information Sheets for Field Testing[5] that were attached to the aforesaid MOU, it was stated therein that multi-location field trials for biosafety assessment of *bt talong* would be conducted by the parties to the MOU in cooperation

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[3] *Ibid, Exhibit "A", pages 82-84.*
[4] *Ibid, Exhibit "A-1", pages 85-94.*
[5] *Ibid, Exhibit "A-2", pages 95-121.*

with the United States Agency for International Development ("USAID"), Cornell University-Agricultural Biotechnology Support Project II ("Cornell University") and Maharashtra Hybrid Seed Company ("MAHYCO") with private respondent UPLB as the lead proponent. Further, the proposal indicated that the field trials would be conducted for two (2) years with initial target planting in October 2009 and with the end view of generating information on the efficacy, yield and horticultural performance of *bt talong*. Furthermore, they provided that the proposed field testing sites would be approximately One Thousand (1,000) up to Two Thousand Five Hundred (2,500) square meters in area per site per season at the following locations, to wit:

1. RAFCI - Sta. Maria, Pangasinan;
2. DA Region II – Ilagan, Isabela;
3. PhilRice – Muñoz, Nueva Ecija;
4. IPB-UPLB – Brgy. Paciano Rizal, Bay, Laguna;
5. CSSAC – Pili, Camarines Sur;
6. DA Region II – Iloilo;
7. Visayas State University – Baybay, Leyte;
8. UP Mindanao – Bago Oshiro, Davao City; and
9. University of Southern Mindanao – Kabacan, North Cotabato

Finding that the field test proposal had satisfactorily completed the biosafety risk assessment for field testing, the public respondent BPI issued Biosafety Permits for Field Testing[6] approving the conduct of the multi-location field trials of *bt talong* with a validity period of two (2) years from the time of their issuance on March 16, 2010. Pursuant thereto, the field trials were conducted by the private respondents in various locations throughout the country.

In view of the foregoing antecedents, the petitioners filed the instant petition in the Supreme Court on April 26, 2012 praying that the said Court issue a continuing mandamus and writ of kalikasan against the respondents to stop the conduct of the multi-location field trials on the ground that the said field trials violate the environmental right of the Filipino people to a balanced and healthful ecology. The

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[6] *Ibid, Exhibits "B" to "B-6", pages 152-158.*

said case was docketed as G.R. No. 201390. In support of the petitioners' prayer for the issuance of a writ of continuing mandamus, the petitioners averred that, pursuant to Presidential Decree No. 1586, in relation to Presidential Decree No. 1151, the Philippine Environmental Impact Statement System (PEISS) was established which required the submission of an environmental impact statement before any proposal or project by a government agency or a private entity that significantly affects the environment may be implemented. In line with the PEISS, the DENR issued Department Administrative Order No. 2003-30 ("DAO 2003-30") which requires any project that poses a potential environmental risk to secure from it an environmental compliance certificate (ECC) which would certify that the proposed project or undertaking would not cause a significant negative impact on the environment. It is the contention of the petitioners that the *bt talong* field trials is an activity that significantly affects the environment, citing Department Administrative Order No. 08-2002 ("DAO 08-2002") of the DENR which presumes genetically-modified organisms as harmful to and significantly affects the environment. Consequently, the petitioners maintained that the *bt talong* field trials did not comply with the PEISS Law in that the proponents of the said field trials did not secure an ECC from the DENR.

Apart from the private respondents' supposed non-compliance with the PEISS Law, the petitioners alleged that the conduct of the *bt talong* field trials likewise did not comply with Sections 26 and 27 of the Local Government Code (LGC) which mandate the conduct of prior consultations with affected local communities and require that the consent of the affected *sanggunians* be obtained on projects and programs that may cause pollution, loss of crop land, rangeland or forest cover and extinction of animal or plant species.

Anent the petitioners' prayer for the issuance of a writ of kalikasan, they contended that the conduct of multi-location field trials of *bt talong* violates their constitutional and environmental right, as well as of the Filipino people, to a balanced and healthful ecology and it disregards the precautionary principle which serves as a guide in the exercise of the said environmental right. Moreover, the petitioners asseverated that the respondents violated their constitutional right to

be informed on all matters of public concern, including the right of the public to participation and consumer protection. In addition, the petitioners claimed that the respondents violated the provisions of Administrative Order No. 8 and the National Biosafety Framework of the Philippines (Executive Order No. 514) in that they failed to conduct any valid risk assessment before conducting the *bt talong* field trials. According to them, the private respondents, who were the proponents of the said field trials, should not have relied completely on the studies of MAHYCO in India and should have instead conducted an independent and rigid scientific assessment of the risks of the project in order to be certain that it would not pose any threat to the environment.

In a Resolution dated May 2, 2012, the Supreme Court acted on the petition by issuing a writ of kalikasan against herein respondents and ordering them to make a verified return of the said writ within a non-extendible period of ten (10) days from their receipt of the Notice[7] from the Supreme Court. Meanwhile, the Supreme Court held in abeyance the resolution of the petitioners' prayer for the issuance of a writ of continuing mandamus pending the respondents' filing of their verified return.

On May 22, 2012, private respondent ISAAA filed its Verified Return[8] whereby it admitted that it entered into a Memorandum of Undertaking[9] with private respondents UPLBFI and UPMFI on September 24, 2010 for the purpose of pursuing research and development programs for the development of pest-resistant crops through field trials. Moreover, it stated that the *bt talong* project was then at its implementation stage already on four (4) field trial sites, namely: (1) UPLB; (2) Sta. Maria, Pangasinan; (3) CBSUA – Pili, Camarines Sur; and (4) University of Southern Mindanao at South Cotabato.

However, by way of affirmative defense, private respondent ISAAA claimed that the petition should be dismissed outright for failure of the petitioners to observe the hierarchy of courts and on the

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7 *Ibid, pages 400-401.*
8 *Ibid, pages 437-547.*
9 *Supra, Note No. 3.*

ground that the allegations therein were mere assertions and baseless conclusions of law. In opposing the petitioners' prayer for the issuance of a writ of kalikasan, private respondent ISAAA insisted that the respondents complied with all environmental laws to ensure that the people's right to a balanced and a healthful ecology was protected and respected. Moreover, it denied the allegations of the petitioners that the public was not given the opportunity to participate in the decision-making concerning the *bt talong* field trials and that the public was not granted access to information regarding the said project. On the contrary, it argued that the respondents conducted extensive public consultations and awareness-raising activities regarding the *bt talong* field trials and obtained the consent of the respective *sanggunians* where the field trials were conducted. Further, in opposing the petitioners' prayer for the issuance of a writ of continuing mandamus, private respondent ISAAA submitted that it was not an agency or instrumentality of the government against whom a writ of continuing mandamus may be issued. Furthermore, it insisted that the biosafety framework of the public respondent BPI which granted the biosafety permits amply safeguarded the environmental policies and goals which were being promoted by the PEISS.

At any rate, however, private respondent ISAAA posited that the precautionary principle is not applicable in this case since the field testing was only a part of an ongoing and continuous study which was conducted in a controlled and isolated environment to ensure that the said field trials would not pose any significant risk on human health and environment. In fact, it averred that the field trials were experimental in nature and that they are the very precautionary measure which the respondents were undertaking in deciding whether or not to release *bt talong* in the market for human consumption.

Lastly, private respondent ISAAA averred that the petitioners' application for the issuance of a TEPO should be denied on the grounds that the petitioners had no clear legal right to the same and that there was no matter of extreme urgency that would warrant its issuance. Also, it stressed that the petitioners would not suffer grave injustice and irreparable injury from the conduct of the *bt talong* field

trials.

In their Return of the Writ[10] public respondents EMB, BPI and FPA, represented by the Office of the Solicitor General (OSG), denied the material allegations that were stated by the petitioners in their petition and, like private respondent ISAAA, they raised the issue of the alleged failure of the petitioners to adhere to the doctrine of hierarchy of courts. Likewise, the public respondents questioned the petitioners' legal standing to file the instant petition on the ground that none of the petitioners have claimed that they sustained damage or prejudice by reason of the conduct of the *bt talong* field trials. Thus, the public respondents posited that the petitioners were not the "persons aggrieved" who may institute the instant petition under the Rules of Procedure on Environmental Cases.

Moreover, the public respondents alleged that the remedy of the writ of kalikasan was unavailing to the petitioners in that there was no unlawful act or omission that could be considered to be in violation of the petitioners' right to a balanced and healthful ecology. Also, they maintained that there was no environmental damage of such magnitude as to prejudice the life, health and property of inhabitants in two or more cities or provinces, stressing that the precautionary principle finds no application in the instant case. Further, the public respondents reiterated private respondent ISAAA's stance that there was no violation of environmental laws, rules and regulations in the conduct of the *bt talong* field trials and that the said project was not covered by the PEISS Law and Sections 26 and 27 of the Local Government Code.

As to the petitioners' prayer for the issuance of a writ of continuing mandamus, the public respondents averred that the same must be denied for the petitioners' failure to state a cause of action and for lack of merit. Moreover, they asseverated that the issues that were raised by the petitioners involved technical matters which pertain to the special competence of public respondent BPI which determination is entitled to great respect and finality.

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[10] *Rollo, Volume II, pages 1266-1347.*

Private respondent UPLBFI, in its Return,[11] admitted the existence and due execution of the memorandum of undertaking that was entered into among the private respondents for the conduct of the *bt talong* field trials, as well as the existence of the biosafety permits that were issued by public respondent BPI. However, it argued that the *bt talong* field trials would not significantly affect the quality of the environment or pose a hazard to human health. Moreover, it asseverated that the proponents of the said field trials had fully and faithfully complied with existing laws, rules and regulations prior to and during the conduct of the project, adding that it was no longer necessary to secure an ECC for the project since it would not significantly affect the environment. According to private respondent UPLBFI, there was a "plethora of scientific works, literature, peer-reviewed, on the safety of *bt talong* for human consumption". Private respondent UPLBFI's return was later on adopted by private respondent UPLB in its Answer[12] to the petition that was filed by the latter on August 24, 2012.

In a Resolution[13] dated July 10, 2012, the case was referred by the Supreme Court to this Court for the acceptance of the returns of the writ that were filed by the respondents and "for hearing, reception of evidence and rendition of judgment". Thus, on September 12, 2012, this Court held a preliminary conference whereby this Court resolved to first thresh out some procedural issues which were raised by herein respondents in this case, to wit:

> a. Whether or not the petitioners have the legal standing to file the instant petition;
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> b. Whether or not the instant petition had been rendered as moot and academic by the allegation of the respondents that field trials had already been concluded; and
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> c. Whether or not the petitioners had presented a justiciable controversy.

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[11] *Ibid, Volume III, pages 2009-2079.*
[12] *Ibid, pages 2120-2123.*
[13] *Ibid, pages 2100-2101.*

In order to support their respective contentions on the aforementioned issues, both parties were then directed by this Court to submit their arguments in the form of memoranda. In a Resolution[14] dated October 12, 2012, this Court ruled that the petitioners had the legal standing to file the instant petition. Further, this Court did not share the respondents' view that the instant case must be dismissed on the ground of mootness, noting that the issues which were raised by herein petitioners were "capable of repetition yet evading review" since the *bt talong* field trial was just one of the phases or stages of an overall and bigger study that is being conducted in relation to the said genetically-modified organism. In this regard, the said resolution likewise stated that the petitioners had presented justiciable questions which were within the ambit of this Court to resolve.

Hearing on the merits of the case then ensued. During the parties' presentation of evidence on November 20, 2012, this Court applied the Australian "hot-tub" method in which the expert witnesses of both parties were sworn in and presented at the same time in the form of a free-flowing discussion and cross-examination of each other as well as questioning of them by the Court itself. For the part of the petitioners, they presented the following expert witnesses, to wit: (1) Dr. Ben Malayang III ("Dr. Malayang"); (2) Dr. Charito Medina ("Dr. Medina"); and (3) Dr. Tushnar Chakraborty ("Dr. Chakraborty"). On the other hand, the respondents presented their own experts, as follows: (1) Dr. Reynaldo Ebora ("Dr. Ebora"); (2) Dr. Saturnina Halos ("Dr. Halos"); (3) Dr. Flerida Cariño ("Dr. Cariño"); and (4) Dr. Peter Davies ("Dr. Davies"). In addition to the aforesaid expert witnesses, the respondents, on separate dates, presented the testimonies of Atty. Carmelo Segui ("Atty. Segui"), Ms. Merle Palacpac ("Ms. Palacpac"), Mr. Mario Navasero ("Ms. Navasero") and Dr. Randy Hautea ("Dr. Hautea").

Meanwhile, on November 20, 2012, the Biotechnology Coalition of the Philippines, Inc. (BCPI) filed an Urgent Motion for Leave to Intervene as Respondent[15] claiming that it had the legal standing to

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[14] *Ibid, pages 2311-2324.*
[15] *Ibid, Volume IV, pages 2450-2460.*

intervene in this case. In the said motion, BCPI alleged that it is a non-stock, non-profit association aimed at promoting and developing the safe and responsible use of modern biotechnology in the Philippines. According to BCPI, it stands to suffer a direct injury should this Court grant the reliefs prayed for in the instant petition as it would cause the wheels of biotechnology research in the country to grind into a halt. Moreover, it averred that its intervention would not unduly delay or prejudice the adjudication of the rights of the parties in this case.

However, in a Resolution[16] dated January 16, 2013, this Court denied the urgent motion to intervene that was filed by BCPI for lack of merit. Consequently, on February 1, 2013, BCPI filed a Motion for Reconsideration[17] of the January 16, 2013 resolution of this Court but the said motion was likewise denied in this Court's subsequent Resolution[18] dated February 11, 2013.

After both parties had filed their formal offers of evidence and rested their case, they simultaneously filed their memoranda on May 2, 2013 in support of their respective sides of the case. Pursuant to A.M. No. 09-6-8-SC, this Court has sixty (60) days from the time when the petition was submitted to it for decision within which to render a judgment. Thus, we now resolve.

In this Court's earlier resolution on October 12, 2012, certain procedural issues that were raised by the respondents had already been passed upon, including the petitioners' *locus standi* to file the instant petition and the presence of a justiciable controversy that warrants the intervention of this Court. As these preliminary matters were already resolved before the parties went on with the presentation of their respective pieces of evidence, we shall now proceed to the discussion of the merits of the instant petition with the sole issue at hand: Did the conduct of the *bt talong* field trials violate the right of the Filipino people to a balanced and healthful ecology?

In addressing this issue, we are, in turn, confronted with the

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16 *Ibid, pages 2884-2871.*
17 *Ibid, pages 2956-2974.*
18 *Ibid, pages 3215-3217.*

question of whether or not the government had adopted sufficient biosafety protocols in the conduct of field trials and feasibility studies on genetically-modified organisms to safeguard the environment and the health of the people. It is the contention of the petitioners that the government failed in this respect, adding that the country should first establish a test or standard facility to carry out the field trials of genetically modified organisms. Moreover, they insisted that the *bt talong* field trial is covered by the PEISS Law and that the private respondents did not secure an ECC from the DENR before they conducted the aforesaid field trial.

For their part, the respondents countered that the confined field trials of *bt talong* complied with the biosafety regulatory requirements of the law and that the said requirements were enough safeguards to ensure that the said field trials would not pose a significant threat to the environment or to the health of the people. They added that, since the year 2002, public respondent BPI has been granting biosafety permits for field trials of *bt talong, bt corn* and *bt cotton* but no adverse effects resulting therefrom had allegedly been reported.

A perusal of the *rollo* or record of the case reveals that, at this moment, there is no single law that governs the study, introduction and use of genetically-modified organisms in the country. What we have are mere biosafety regulations that were issued by the Department of Agriculture and the Department of Science and Technology on one hand and the PEISS of the public respondent EMB on the other hand which, when taken together, allegedly govern and regulate the field trials of genetically-modified organisms in the country. However, the fundamental question now arises: Are these regulations sufficient so as to guarantee the safety of the environment and health of the people? In suggesting that the precaution which must be undertaken by the government must be "under the realm of public policy", Dr. Malayang, an expert witness, explained his view on the matter in this wise:

> "Chairperson:
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> "Anyway, I would like to ask Dr. Malayang, because what you are saying is that we should exercise extraordinary care in the

conduct of this field trials of BT Talong, are you saying that the vetting protocols set forth in the Department of Agriculture Order No. 8 are not sufficient?

"Dr. Malayang:

"Yes, your Honor, I am saying that it is not sufficient because the vetting protocol itself has not been properly vetted across different sectors of the country. For example, from the point of view of the scientists, I would not question that they probably are very satisfied that this protocol would give them a good indication whether or not the technology is safe, **but what I am saying is that I want to raise the precaution under the realm of science into the realm of public policy because, in the event that indeed this would turn out to be bad for, after all, the titanic engineers thought that it will never sink, there is at least full public participation in the acceptance of the risks. I think that it is not enough that we have a vetting protocol. The vetting protocol in a situation like BT *talong* that has a very highly anticipated good impact for the country must therefore by itself be broad enough that it becomes a national concern.** So, the vetting protocol itself must be vetted. I mean, after all, I think we all share in the same panel that we need to be very safe. I would like to presume that you want to do the test because if it is not safe you will not want to introduce it and, therefore, if that be the case, why can not we all be participatory and open into this beyond the confines of the Department of Agriculture. So people ... **beyond the confines of the farm and of the agriculture sector there may be other people out there and other sectors of our economy and society whose lives and practices and cultures may be effected because certain insects are no longer there to give them the kind of fruits that they have wanted for their own religious rites or anything like that, I mean I am just imagining, so we need to go beyond that.** Now, you may say, "No, we do not have the patience to do that because, as agricultural scientists, we are sure of ourselves". Sure! You can always say to that yourselves and I will never dispute that you are sure about yourselves because of the protocols of the science, but my personal position to the Court is, please, let us bring this to the realm of public policy."[19]

This Court is inclined to concur with the submission of Dr. Malayang. In fact, the parties themselves could not even reach an agreement as to what laws are applicable or not applicable in the

[19] *TSN, November 20, 2013, pages 97-100.*

conduct of *bt talong* field trials. Perhaps it is high-time to re-examine our laws and regulations with the end in view of adopting a set of standards that would govern our studies and research of genetically-modified organisms, bearing in mind that this task is a public affair that would affect more sectors of our society than we could imagine. True, there are biosafety regulations that we follow. However, considering the irreversible effects that the field trials and, eventually, the introduction of *bt talong* to the market could possibly bring, we could not take chances. No less than the 1987 Philippine Constitution guarantees our right to a healthy environment.[20] This Court perforce is mandated to uphold the aforesaid right if the same is threatened or is put to risk such as in the case at bench.

Thus, we now come to the core issue of whether or not the conduct of the *bt talong* field trials has violated the constitutional right of the people to a balanced and healthful ecology. The petitioners argued that the *bt talong* field trials might contaminate the indigenous genetic resources of the country and create an imbalance on our ecology. They also averred that the said field trials might contaminate other non-GMOs since the study of *bt talong* relied merely on the findings on *bt brinjial* which was the counterpart of *bt talong* in India. Moreover, the petitioners pointed out the difference in a controlled laboratory condition where the tests were conducted *vis a vis* the actual and open field environment within which the *bt talong* would be eventually introduced.

For their part, the respondents countered that the *bt talong* field trials were safe and do not cause harm to the environment. In fact, they claimed that international organizations, such as the World Health Organization and the European Union, concluded that genetically-modified organisms do not pose risks to the environment and that they were just the same as crops which are grown in conventional method. Further, they asseverated that the confined field trials complied with the biosafety regulatory requirements which were enough safeguards to ensure that they would not cause harm to or threaten the environment. The respondents then added that the field trials were done precisely to generate data and information on

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[20] *Section 16, Article II.*

the product's effect to the environment but this process of information-gathering was nonetheless regulated by certain safeguards to ensure that the field trials would not pose any threat to the people and on our ecology.

This Court, after a careful and judicious scrutiny of the whole matter and the respective arguments of the parties, finds the instant petition to be impressed with merit and the issuance of a writ of *kalikasan* in order, considering the foregoing premises in this case.

The writ of *kalikasan*, as defined by the Rules of Court, is a remedy available to a "natural or juridical person, entity authorized by law, people's organization, non-governmental organization, or any public interest group accredited by or registered with any government agency, on behalf of persons whose constitutional right to a balanced and healthful ecology is violated, or threatened with violation by an unlawful act or omission of a public official or employee, or private individual or entity, involving environmental damage of such magnitude as to prejudice the life, health or property of inhabitants in two or more cities or provinces".[21] Being an extraordinary remedy under our laws, the underlying emphasis in the writ of *kalikasan* is of great magnitude as it deals with damage that transcends political and territorial boundaries.[22]

Aside from being an extraordinary remedy under our laws, the Rules of Procedure for Environmental Cases (A.M. No. 09-6-8-SC) had likewise adopted an important concept in evidence which serves as the court's guide in resolving environmental cases before it. Rule 20 of A.M. No. 09-6-8-SC sets forth the so-called "precautionary principle" which states as follows:

> "SECTION 1. *Applicability.*—**When there is a lack of full scientific certainty in establishing a causal link between human activity and environmental effect, the court shall apply the precautionary principle in resolving the case before it.**

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[21] *Min Res., GR. No. 202493, Casino et al. vs. DENR, July 31, 2012 and GR. No. 202511, Agham Party List vs. DENR, July 31, 2012.*

[22] *Annotation to the Rules of Procedure for Environmental Cases, Secretariat of the Sub-committee on A.M. No. 09-6-8-SC.*

> The constitutional right of the people to a balanced and healthful ecology shall be given the benefit of the doubt.
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> SEC. 2. *Standards for application*.—In applying the precautionary principle, the following **factors**, among others, may be considered: **(1) threats to human life or health; (2) inequity to present or future generations; or (3) prejudice to the environment without legal consideration of the environmental rights of those affected**."

The precautionary principle especially finds relevance in the case at bench in that the present controversy deals with a genetically-modified organism that would be introduced into our ecosystem and eventually to the Philippine market for human consumption. As earlier stated, there is no single law that specifically regulates the study and research of genetically-modified organisms in the country, save for the administrative orders that were issued by a few government agencies dealing with programs or project that would have a perceived significant negative impact on the environment. While it may be argued by the respondents that the *bt talong* field trials were conducted precisely to determine the efficacy of *bt talong* and to generate data and information on the same, it must be equally stressed that the over-all safety guarantee of the *bt talong* remains to be still unknown. One of the indicators which stresses the product's uncertainty is the fact that the consumption of the said product is prohibited pending its "full safety assessment". Thus:

> "Chairperson:
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> "So actually there is no full scientific certainty that it does not cause any harm pertaining to health?
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> "Dr. Cariño:
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> "BT Talong per se has not been fully valuated yet that is why it is undergoing trials. If reporting of the BT toxin in BT Talong is Cry1Ac, there are numerous studies that had been actually published on relative safety of Cry1Ac protein and it is actually considered as an additional protein and the various reviews can be seen in the OECD Digest of risks assessments on Cry1A protein. **Alternatively, if you are looking at the possibility of harm coming from the introduced protein as yet, we have not done a**

full blown assessment of it as of the moment but we look at the protein sequence and with a comparison of its sequence with other sequences in the data basis to see if it is similar to this amino acid sequence of other known toxins and so far I have actually ... in my affidavit, I have actually seen personally that it is not closely related to any of the known toxins that are found into its system.

"Chairperson:

"So in effect we can not really say that *BT Talong* is perfectly safe for human consumption?

"Dr. Cariño:

"Right now it is not meant to be consumed by human at this point. Let me just clarify one point. When any GM material is supposed to be introduced for food and for feed and before it actually utilize for life skill production, it goes through several steps, the first step is actually the "lab", laboratory work and it is actually tested in this *clean-houses, rolled-out confined limited field test and then it goes to butyl abyss of field tests where it is like generating more and more information, we are still early on in this pathway, so we are only in the confined field test and at the moment the thing that it is still being tested the focus is on its efficacy after doing a preliminary assessment of the possible pathological and ecological effect, and that is the pathway that has been recommended by so many academics as well as scientific institutions as well and that has been a tract followed by almost all the genetically modified crops that is being introduced in the market today, but at the moment *BT Talong* is not yet a commodity, it is not yet being evaluated as a commodity.[23]

xxx

"Chairperson:

"So what is the absolute certainty that it is safe for human consumption?

"Dr. Ebora:

"**Your Honor, we are quite certain that the product is safe but not at this time because the product is still under**

[23] *TSN, November 20, 2012, pages 34-36.*

> **evaluation** and we are following the rules and regulations of the government, it is not supposed to be eaten at this time.
>
> "Chairperson:
>
> "But there is no absolute certainty that it is safe. There is no full scientific certainty that it is safe?
>
> "Dr. Cariño:
>
> "**Your Honor, the safety assessment is generally done by the time we have a finished product, at the moment we do not have a finished product that is why it is undergoing field trial**, we are still looking for that one line or two lines or three lines that we wish to develop into a full real variety.
>
> "Chairperson:
>
> "But it is not that the respondents, respondent UP Los Baños had already finished the field trials? What are the results? What are the findings?
>
> "Dr. Cariño:
>
> "**The findings for the field trial is for efficacy, it is not a safety assessment as yet because part of the thing that they will do when they harvest the gene is to have the product analyzed, we have not finished with the data collection of that**. I have not seen for example let's face it if you are dealing with eggplant it belongs to the family "solanaceae." Solanaceae is known to have glycoalkaloids and so for example the modification of the protein could have, I am not saying it did, but it could have for example change the level of this toxicant and so it would have to be analyzed not to be compared to the conventional variety and so that is not done yet and so that is why the regulatory system actually prohibits consumption of this product until the full safety assessment has actually been done."[24]

From the foregoing testimonial pieces of evidence, it is clear that there is no full scientific certainty yet as to the effects of the *bt talong* field trials to the environment and health of the people. This is where the precautionary principle sets in which states that, when human activities may lead to threats of serious and irreversible

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[24] *TSN, November 20, 2012, pages 42-43.*

damage to the environment that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that threat.[25] After all, the best science and the best technology do not translate to absolute safety. Corollary thereto, in its *Annotation to the Rules of Procedure for Environmental Cases,* the Secretariat of the Sub-committee on the said Rules explained the relevance of the precautionary principle in relation to environmental cases as follows:

> "In its essence, the precautionary principle calls for the exercise of caution in the face of risk and uncertainty. While the principle can be applied in any setting in which risk and uncertainty are found, it has evolved predominantly in and today remains most closely associated with the environmental arena. The Rules acknowledge the peculiar circumstances surrounding environmental cases in that "scientific evidence is usually insufficient, inconclusive or uncertain and preliminary scientific evaluation indicates that there are reasonable grounds for concern" that there are potentially dangerous effects on the environment, human, animal, or planet health. For this reason, principle requires those who have the means, knowledge, power, and resources to take action to prevent or mitigate the harm to the environment or to act when conclusively ascertained understanding by science is not yet available. In effect, the quantum of evidence to prove potentially hazardous effects on the environment is relaxed and the burden is shifted to proponents of an activity that may cause damage to the environment."

It is in this light that this Court finds that the issuance of a writ of *kalikasan* is warranted under the circumstances, bearing in mind that the fundamental law of this land, no less than the 1987 Philippine Constitution, explicitly declares as a state policy to "protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature".[26] In expressing the need to protect our country's ecology and biodiversity, Dr. Malayang emphasized that, while he recognizes that changes and revolutionary processes happen all the time, we must be extra careful for changes may be irreversible. Thus:

"Dr. Malayang:

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[25] *Section 4 (f) of Rule 1 of the Rules of Procedure for Environmental Cases.*
[26] *Section 16, Article II, 1987 Philippine Constitution.*

"xxx My second point to the Honorable Court is that I am also concerned with the fragility of the Philippine environment as the place and context of the introduction of BT crops like *BT talong*. My concern is undiminished even if there is increasingly higher policy tolerance for these crops in the country. I **submit to this Court that the Philippines is among the world's biologically rich countries. We have so many plants and animals, and many kinds of other living things, than any other countries or regions in the world. So many of our insects are not even fully known. We do not know how they all behave to influence the transfer of genetic materials from plants to other plants. We do not fully know what we do not know about the intricate interactions between plants and between insects and other living things that define the universe of our healthful and balanced ecology. The universe of our healthful and balanced ecology certainly go beyond specific crops. I am concerned that, absent of a full (as against partial) understanding of the intricate web of genetic flows and interactions among plants, animals and other living things in our wet and tropical ecosystems, it will require extraordinary care to tamper with anyone element of this swirl of interrelationships. This is notwithstanding the seeming preponderance of evidence of safety in other countries and environment that are certainly not the same as ours.** I can grant that we could do some changes in our crops for after all changes and evolutionary processes happen all the time. But I submit to this Court that we must be extra careful because the effects might be irreversible. Introducing a genetically modified plant in our intricate world of Philippine plants and ecosystems, "Philippine plants and ecosystems", could cause a string of changes across many plants that, like the green revolution or in the case of medicine and the two other cases cited above, could turn out to be harmful to humans and the enviroment more than they were intended to be useful. xxx

"Vetting protocols and results from other countries may be looked at but not to be relied upon entirely because their ecological conditions and biosafety tolerance levels are likely to be most different from ours. And I believe that this is the reason why you want to do as much tests as possible. I would hope that the tests that we will be doing is a test process that is acceptable to all of us rather than merely concocted or designed by just a few people. And, because of its high public sensitivity and potential risk to our fragile biodiversity, this protocol must be a product of wider citizens'

> participation and reflect both scientific and traditional knowledge and cultural sensitivity of our people. It is in the NBF after all, the National Biosafety Framework. It must be subjected to a free and prior public acceptance of its estimated error level before it is to be used to assess the safety of *GM Talong* in the particular ecological circumstances of our country. This protocol does indeed require going beyond science. **My view is that introducing *BT Talong* in the Philippines must be decided on the grounds of both science and public policy. Public policy, in this case, must involve full public disclosure and participation in accepting both the potential gains and possible pains of *BT Talong.* The stakes, both positive and negative, are so high that I believe *BT Talong* would require more public scrutiny and wider democratic decision making beyond the ken of science.** A safety vetting protocol can be designed that is first deemed acceptable to a wide range of sectors... I therefore submit my humble view to this Court that, for the sake of our country and our rich biodiversity of intricately interralated living things, ***BT Talong* requires maximum precaution and most prudence, if it were to be adopted for its highly significant possible good for our people. Prudence requires that maximum efforts be exerted to ensure its safety beyond the parameters of science and into the sphere of public policy for to fail in doing so what might be highly anticipated to be beneficial may, in some twist of failure or precaution and prudence to establish the safety of *BT Talong* beyond reasonable doubt, the *BT Talong* may turn out to be harmful after all. This we certainly do not want to do.** I submit these views to the Court."[27]

It bears stressing that our Constitutional right to a balanced and healthful ecology is a compound right which consists of: (1) the right to one's health which should not be put to risk by a willful disturbance of the ecological balance, and (2) the right to live in an environment of balanced ecological relations. The former speaks of threats to human health which, in the case of *bt talong* field trials, had not yet been assessed and categorically declared as safe for humans. On the other hand, the latter concerns the people's right to a balanced ecology which presupposes that all living things, as they are naturally ordained, are equally necessary to maintain the aforementioned balance. In the instant case, the field trials of *bt talong* involve the willful and deliberate alteration of the genetic traits of a living element

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[27] *TSN, November 20, 2012, pages 60-64.*

of the ecosystem and the relationship of living organisms that depend on each other for their survival. Consequently, the field trials of *bt talong* could not be declared by this Court as safe to human health and to our ecology, with full scientific certainty, being an alteration of an otherwise natural state of affairs in our ecology.

At this point, this Court is reminded of the case of *Oposa v. Factoran*[28] where the Supreme Court recognized and upheld the constitutional right of the people to a balanced and healthful ecology. The Supreme Court, speaking through erstwhile Justice Hilario C. Davide, Jr., declared that the aforesaid constitutional right concerns nothing less than self-preservation and self-perpetuation the advancement of which may even be said to predate all governments and constitutions, to wit:

> "While the right to a balanced and healthful ecology is to be found under the Declaration of Principles and State Policies and not under the Bill of Rights, it does not follow that it is less important than any of the civil and political rights enumerated in the latter. Such a right belongs to a different category of rights altogether for it concerns nothing less than self-preservation and self-perpetuation — aptly and fittingly stressed by the petitioners — the advancement of which may even be said to predate all governments and constitutions. As a matter of fact, these basic rights need not even be written in the Constitution for they are assumed to exist from the inception of humankind. If they are now explicitly mentioned in the fundamental charter, it is because of the well-founded fear of its framers that unless the rights to a balanced and healthful ecology and to health are mandated as state policies by the Constitution itself, thereby highlighting their continuing importance and imposing upon the state a solemn obligation to preserve the first and protect and advance the second, the day would not be too far when all else would be lost not only for the present generation, but also for those to come — generations which stand to inherit nothing but parched earth incapable of sustaining life."

WHEREFORE, in view of the foregoing premises, judgment is hereby rendered by us **GRANTING** the petition filed in this case. The respondents are **DIRECTED** to:

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[28] *G.R. No. 101083, July 30, 1993.*

(a) Permanently cease and desist from further conducting *bt talong* field trials; and

(b) Protect, preserve, rehabilitate and restore the environment in accordance with the foregoing judgment of this Court.

No costs.

SO ORDERED.

ISAIAS P. DICDICAN
Associate Justice

WE CONCUR:

MYRA V. GARCIA-FERNANDEZ
Associate Justice

NINA G. ANTONIO-VALENZUELA
Associate Justice

C E R T I F I C A T I O N

Pursuant to Article VIII, Section 13 of the Constitution, it is hereby certified that the conclusions in the above decision were reached in consultation before the case was assigned to the writer of the opinion of the Court.

ISAIAS P. DICDICAN
Associate Justice
Chairperson, Special Thirteenth Division