# COMELEC's PCOS-OMR SYSTEM REJECTS PUBLIC COUNTING, ENHANCES WHOLESALE CHEATING

## 1. Comelec is ill-equipped to manage complexities of OMR technology; 2. Who controls the technology controls the votes – and power

**A Policy Critique**
**By the Center for People Empowerment in Governance (CenPEG)**
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Contrary to a recent newspaper full-page ad with an Obama-ish heading "Yes, we can!" and a posturing that "automated elections" will "modernize democracy," the full automation of the May 10, 2010 national and local polls will most likely lead to wholesale electronic cheating thus disenfranchising millions of voters. Equally worse is that it will make poll watching extremely difficult thus rendering it moot and academic; the technology can be used by the powers-that-be for the electoral defeat of any legitimate opposition candidate or party. Serious political scenarios will ensue from what may turn out to be a failed electoral exercise.

As the key instrument in the country's election modernization, the Commission on Elections (Comelec), among other entities, should be held to account for a possible failure of elections or, at the very least, widespread election protests. There are strong indications that the Comelec is ill-equipped and ill-prepared to administer the May 10, 2010 elections and its preparations for the installation of election technology appear to disregard some key provisions of RA 9369 and recommendations of its own advisory council.

At this stage, the Filipino people particularly the electorate, poll watch groups, political parties, and other multi-sectoral and sectoral groups should be vigilant in monitoring Comelec's pre-election preparations and in defending the people's democratic rights part of which is the right to vote and to have an open, transparent, credible, and participatory elections.

## I. Introduction

The Precinct Count Optical Scan (PCOS) or Optical Mark Reader (OMR) technology system adopted by the Commission on Elections (Comelec) under the present political conditions and capability of the nation's election manager, the Comelec, will make the whole electoral process bereft of credibility, transparency, or voter participation. With no electronic technology being invented that is safe from human intervention such as hacking and other types of computer attacks, the system will most likely lead to wholesale electronic cheating. Unbeknownst to the public and media, it will trigger a scramble for

control of the key to the hardware and software technology among the moneyed and powerful.

The May 2010 synchronized national and local elections where full automation or full electronic voting will be used for the first time is a major political event that should not be measured or prepared for solely on the installation of technology. It should be seen rather as one political exercise that remains dominated by the elite under the Arroyo government and where electronic technology may be manipulated to allow the oligarchs to remain in power. Such possibility has become stronger with the entrenchment of powerful fraud machineries, with the Comelec yet to solve its credibility problem and the overarching concern of election fraud is yet to be decisively addressed. The new technology system will be in the hands of these powers but the winning bidder which will most likely be a multinational company also shares this power.

Under these conditions, the technology preferred by the Comelec will all the more reinforce the manipulative character of the traditional electoral process. The overall electoral struggle that seeks to bring progressive, non-traditional minds with a strong voice in Congress and in other elective positions has always included the campaign to make the Comelec independent and to have an open, transparent, and credible elections.

The automation of the elections deserves the people's support - but only insofar as it promotes the principle of "secret voting and public counting"; for as long as it would make the polls clean, transparent, and credible and would give election stakeholders especially the voters some latitude and leeway to participate and contest election results, among others. Contrary to what is now evolving, the modernization of the country's election system is supposed to promote and enhance – not limit or constrain - the people's voting rights as an expression of their sovereign power to choose the kind of government the people deserve.

The Comelec's PCOS (OMR) is drawing increasing opposition from leading IT specialists, computer science academe, independent centers engaged in electoral struggle and governance as well as members of Congress, the interfaith community and other critics. From their perspective, the technology system is vulnerable to wholesale electronic cheating (by external hacking, internal rigging, or other means) made possible by the fraud machineries, resources and powers of the regime - for that matter, of other powerful traditional politicians, TNCs, and a foreign power. The use of PCOS (OMR) will likely translate to huge election losses and the disenfranchisement of millions of voters. Comelec's technology system makes counting, canvassing, and consolidation of election data invisible and difficult to track and are made so fast as to make the filing of election protests impossible and poll watching extremely difficult if not a futile exercise. Under the PCOS or OMR, the fate of the 2010 elections could as well be decided by Malacanang, Comelec, the winning bidder, and the cheats.

The opposition to the PCOS (OMR) has included not only a critique of the various internal weaknesses, errors, and vulnerabilities of this technology as experienced in many countries including in the Philippines' August 2008 ARMM elections but also procedures being pursued and adopted by the Comelec as specified in its Request for Proposal (RfP) / Terms of Reference (ToR).

In opposing, there is a need to expose the perceived manipulative character of the Arroyo government and the traditional electoral process that will likely be made more dangerous by the type of technology chosen by the Comelec. At the same time, there is a need to put forward alternative technologies that seek to make the elections transparent and open, allowing and encouraging more participation from the people and access to electoral data even as we remain vigilant against the fraud machineries of the government and other traditional political forces. We should also put forward mechanisms and safeguards to allow more room for public intervention like legal protests and other challenges to fraud.

As an alternative to closed technologies such as the OMR and DRE, we propose an automated election system that is consistent with the parameters/requirements of exercising the people's democratic rights – the right of suffrage, right of access to public information, and others - making poll watching viable and effective, and allowing election protests to be filed to meet specific objectives; where we can overcome constraints. We support a system where the people, along with their organizations, political parties, and poll watch groups can be allowed to maneuver, have access to, and intervene in the various processes or stages of the automated election system ranging from voting, to counting, and canvassing; in filing election protests to the proclamation of winners.

## II. The Automated Election System (AES) of the Comelec

To better understand the Comelec-preferred OMR (Optical Mark Recognition/Reader) system, a review of the manual election process that has been in use in past elections including the 2007 polls is needed.

The manual system consists of three stages: voting, precinct counting or tallying, and canvassing. Canvassing, which refers to consolidation of votes, is itself composed of three phases: the city/municipal canvassing (consolidation of precinct votes), provincial canvassing (consolidation of city/municipal votes), and national canvassing (consolidation of provincial votes).

On Election Day, voting starts at 7 a.m. and ends at 3 p.m. (8 hours). The precinct counting, which follows immediately after the voting, takes 12 hours on the average. Some precincts finish in 5 hours or, in extreme cases, 24 hours. The rest of the 40 days that it takes to complete the electoral process is devoted to canvassing and consolidation of votes. While retail cheating takes place during

the voting and precinct counting stages, it is during the long canvassing period when wholesale cheating, such as *dagdag-bawas* (vote padding and shaving), occurs.

**A. Precinct Count Optical Scan (PCOS) or Optical Mark Reader (OMR)**

A law authorizing the automation of elections (RA 9369) was signed in January 2007 but was not implemented for the May 2007 elections for lack of time. For the May 10, 2010 elections, Comelec's choice of automation technology is the OMR which it otherwise calls Precinct Count Optical Scan (PCOS). The OMR, together with the Direct Recording Electronic (DRE), was pilot-tested in the August 2008 automated elections of the Autonomous Region for Muslim Mindanao (ARMM).

Although it was never mentioned in RA 9369, the PCOS or OMR is an election technology and hardware that is the Comelec's choice for implementing the said act providing for the automation of the elections. The Comelec's Education and Information Officer cum spokesperson, James Jimenez, said the Comelec Advisory Council (CAC) recommended the use of PCOS-OMR machines "because these can provide a paper trail and allow an easier transition from manual voting to the automated poll system."[1]

At this early, the question that begs an immediate answer is: Will this address the main problem of widespread and massive cheating in the Philippine electoral system, which includes *dagdag-bawas* (vote padding and shaving)? What needs to be automated is not the voting and counting which in manual elections is open, transparent to the voters, verifiable, and can be challenged by election watchdogs and lawyers. What can be automated instead is the transmission to speed up consolidation of votes and canvassing since it is at this level of election that massive cheating occurs. Yet it is this phase of the electoral process that also needs greater transparency, allowing voters and poll watchers to track the vote and check – if not entirely eliminate - cheating. Counting can only be automated so long as it is made public and opened to the scrutiny of the people.

RA 9369 amends RA 8436, entitled "An act authorizing the Commission on Elections to use an automated election system (AES) in the May 11, 1998 national or local elections and in subsequent national and local electoral exercises, *to encourage transparency, credibility, fairness and accuracy of elections*…" Section 1 of RA 9369 states that "The State recognizes the mandate and authority of the Comelec to prescribe the adoption and use of the *most suitable technology of demonstrated capacity taking into account the situation prevailing in the area and the funds available for the purpose*." Note that the law pertains to the authority of the Comelec to use AES in the elections; <u>it does not specify the type of AES the poll body will use.</u> The italicized portions of the law are also important to take note since, as is now evolving, the Comelec's choice of

the type of AES formula is decisively determining the conduct of the whole electoral process in disregard for the other requirements prescribed by law.

Under Comelec's AES, the estimated 250,000 precincts will be collapsed to 80,000 clustered precincts with each cluster, consisting of five precincts, having a maximum of 1,000 voters. (The number of qualified voters for the May 2010 elections is expected to reach 50 million.) Under the AES, the PCOS (OMR) is "a fully integrated single device"; the printing and transmission functions "may or may not be" integrated into the system.[2]

**How the PCOS (OMR) works**

On Election Day, the voters are given pre-printed ballots containing the names of all candidates from the President to the councilors. Each voter marks the ovals (similar to lotto) opposite the names of their choices. Next, the voter goes to the OMR machine and feeds her/his ballot to the machine. The OMR will scan the ballot, records the marks on it, as well as record an image of the ballot. From here, the ballot drops into the ballot box. Upon the close of voting (6 p.m.), the BEI presses the "count" button whereby the votes (marks) on each ballot will be read and consolidated with the votes on the other ballots. Eight (8) copies of the election return (ER) will be electronically-generated and printed; at the same time, the ballot records and ER will be transmitted electronically to the computer (PC) of the Municipal Board of Canvassers (MBOC). A copy of the ballot records will also be transmitted to the dominant party, the dominant opposition, the citizens' arm, and media as required by law. (Twenty-two other ERs will be printed and distributed subsequently as required by law.)

After receiving all the precinct transmissions, the MBOC presses the "canvass" button on their computer; then the Statement of Votes (SOVs) and the Certificate of Canvass (COC) will be printed and transmitted electronically to the computers of the National Board of Canvassers (NBOC). Congress is the NBOC for the presidential and vice-presidential contests; Comelec for the senators and Party-list. After receiving all the provincial transmissions, the NBOC will press the "canvass" button on their computer and the national results will be printed. In the Comelec calendar (revised on April 23, 2009), the proclamation of winning candidates for provincial, city, and municipal positions is on May 11, 2010; those for national positions, on May 12-13, 2010.

The PCOS (OMR) supposedly aims to address the slow process of the election from voting (5-12 hours) to canvassing which usually takes 25-40 days in the old system. In recent elections, it is during the canvassing period when most of the fraud incidence such as *dagdag-bawas* takes place. Earlier, the Comelec claimed that PCOS will reduce the whole electoral process to 2-3 days when the winners of national and local positions are officially declared.

**B. Questionable features of the PCOS (OMR) system**

1) The choice of the PCOS (OMR) system for the full automation of the elections was a decision made arbitrarily by the Comelec without any meaningful public hearing let alone consultations with IT specialists, technology-based groups, poll watchers, and other interested parties nationwide. These Filipino IT groups and individual IT experts could have provided the advice and recommendation on the technology, software, as well as other technical requirements and procedures that are cost-effective, readily available in the Philippines, suitable to local conditions, not to mention being compliant with the election automation law. Moreover, the decision was made at a time when new members of the poll body were being appointed by Arroyo under a cloud of public suspicion. Most members of the Comelec Advisory Committee (CAC) that endorsed the system do not have a working knowledge of IT. Why the poll body has been from the outset firm on using a foreign technology like the OMR – apart from dismissing outright other proposals as being "against the law" - warrants an explanation.

2) The printing of OMR ballots, processing of votes and election results are entrusted to the machines – as well as Comelec, the winning bidder, and operators. Voters will have to rely not only on the Comelec but also on the machine and the corresponding winning bidder which is most likely a multinational company among other foreign companies that bought the P1M bidding Terms of Reference (ToR) copy. In entrusting the outcome of the elections on these entities "hope" will be the only thing that matters to ensure that the whole electoral exercise would be clean, credible, and honest. "Trust us," the commissioners say. There may be upright individual members of the Comelec but "good intentions" are not enough; trust for a much tarnished institution like the Comelec is built over time. As far as many Filipino voters are concerned can all these be possible when there is no transparency in the whole process itself – when voters have no way of knowing whether and how their votes are counted? How can that be possible when there has been no election in Philippine history – especially in recent ones – that is fraud-free and where, especially those vying for high positions, candidates won by a clean vote? How can that be possible when the Comelec - itself of ill repute - cannot be trusted?

Invisible to the public, including poll watchers, votes will be counted, canvassed, and transmitted internally to various destinations. Under Comelec's RfP-ToR, a public website is incorporated but only the consolidated canvassing results based on the electronically-transmitted precinct results will be posted.[3] The public website will not certify whether the canvassing results were based on true precinct results – nor will it allow election watchers the chance to verify the canvassing results against the election returns. Because of this lack of transparency, "losing candidates" may not believe the results of the counting where the votes cannot be tracked, nor the ERs – assuming these are accessible - verified against unseen data. The system precisely goes against the democratic principle of "voting in secret and counting in public."

Moreover, the BEIs can only certify that the ER printout was generated from the PCOS but cannot certify to the accuracy of the voting results since the counting is done internally by the PCOS and hidden from public view. It is possible, for instance, for an OMR machine to store electronic votes prior to its official counting.

3) The PCOS (OMR) may claim to have solved the "slow process" of the manual voting/counting by being able to proclaim the winners in 2-3 days. But the speed by which the "election outcome" is processed also prevents "losing" candidates, their parties and election watchers from contesting the results due to material time constraints – clearly in violation of the law. Likewise, Comelec officials can come under pressure to proclaim the winners especially those of the administration with dubious, unverified election results.

Reports with regard to automated elections or electronic voting point to the fact that the disadvantages far outweigh the system's claimed advantages. Accounts of errors, deficiencies, and hidden malicious human intervention have been mounting prompting countries that had adopted this technology to go slow or to abandon it altogether. In Germany, the Supreme Court ruled electronic voting unconstitutional for its lack of transparency. Japan – the world's leading IT country – still uses a manual system backed by an independent post-election audit. Among the key concerns in these countries is the fact that automated election or electronic voting/counting allows no transparency to the whole electoral process.

Some of the problems cited with regard to automated elections[4] are: a) manipulating turnout (e.g., registration-related or the prior removal of voters' list); b) machine problems (uninitialized machines; votes/voices not counted or lost; candidates/choices reversed; contests not counted; ballots not counted; wrong winner comes out; votes exceeding registered voters; unauthorized software replacement); c) software and hardware errors; d) environmental stresses and human errors; e) poor or flawed design; f) malicious tampering (most often hidden behind "clerical mistakes" or "unintentional errors".

In the U.S., persistent problems related with electronic voting and counting have prompted the Association for Computing Machinery (ACM), with more than 900 members, to pass a resolution calling for a voter-verifiable audit trail. In another resolution, the ACM rejected electronic voting in general: "Virtually all voting systems in use today (punch-cards, level machines, hand-counted paper ballots, among others) are subject to fraud and error, including electronic voting systems, which are not without their own risks and vulnerabilities. In particular, many electronic voting systems evaluated by independent, generally recognized experts have been found to be poorly designed; or were developed using inferior software engineering processes and designed without (or with very limited) external audit capabilities intended for operation without obvious protective measures and deployed without rigorous, scientifically designed testing."[5]

Such problems have been confirmed in the pilot testing of the OMR (together with the DRE) in the August 2008 automated elections in the ARMM.

4) In its own evaluation of the ARMM automated elections in August 2008, the Comelec Advisory Council (October 2008 report) found at least 23 common errors and other deficiencies in connection with the use of OMR, as well as the Digital Recording Electronic (DRE). Among the problems documented with the OMR are:

- **Votes shaded in the OMR ballot were exposed to tampering;**
- **Unscrupulous erasures;**
- **The distribution of the official OMR ballots was exposed to the threat of advance shading;**
- **The attached full 196-key Keyboard in the ACM is open to programming intrusion;**
- **Scratches and smudges of the ballots hampered their optical scanning or led to their rejection thus slowing down the counting;**
- **The folding and unfolding of OMR ballots resulted in delays;**
- **Constant paper jamming of the OMR ballots;**
- **Lack of training (or deliberate errors) of BEI officials as shown in the tearing off of the bar codes resulting in their rejection by the OMR machine;**
- **Lack of procedural knowledge on the part of the BEIs particularly on the disposition of invalid ballots and other problems;**
- **Discrepancies in the number of actual voters and number of ballots being counted;**
- **Several incidents where the system would not close the counting and canvassing after showing that it did not count 100% of the total votes from all the precincts when in fact all precincts counted all the votes;**
- **Some systems, including laptops and printers, overheated and stopped functioning;**
- **Malfunctioning of data communication infrastructure or total transmission failures that compromised the integrity and security of the AES;**
- **Constant paper jamming of the OMR ballots**

The PCOS (OMR) has thus several vulnerable spots – including the OMR ballots that will be printed by the National Printing Office (NPO) which was linked to past election frauds. It is possible for the managers of the printing facility to print extra ballots using the same authentic security paper but which could be pre-shaded with the marks of candidates supported by the government.[6] In March 2009, the presidential office tried to appoint Adm. (ret.) Tirso Danga, who was implicated in the 2004 electoral fraud, to head the NPO but backtracked and picked instead a former police intelligence chief, Servando Hizon.[7]

Moreover, IT experts agree it is possible to download a malicious code into every PCOS instructing the machine to alter the data during tabulation or transmission of results; it can even “self-destruct” after it had done its task thus making detection difficult. “Human intervention” can actually be automated, again without being detected. If ballots are rejected by the PCOS due to erroneous marking, smudges, poor calibration/alignment, or other reasons, no replacement ballots will be issued thus resulting in the disenfranchisement of many voters.

All these make the PCOS (OMR) system unreliable and without integrity; it limits its control and management to a few and is vulnerable to wholesale electronic cheating. No computer or electronic technology has been invented that is hack-free. As the first automated synchronized national and local elections approaches, who controls the technology controls the votes – and the political power.

**C. Comelec: Technically and structurally unprepared**

1) In the same CAC report of October 2008, the Comelec was found to be unprepared for a full automated election: "The existing IT infrastructure in Comelec is inadequate to meet the complexities of an automated election process which includes end-user tabulation and computing, multimedia networks, internet and database build-up and maintenance."[8] If this still holds true today, then the fate of the country's automated elections will be left entirely in the hands of the winning OMR bidder – which will likely be a foreign multinational. In the same ARMM elections, poll watchers also reported open and widespread cheating in many precincts thus effectively influencing the outcome of the elections. The fraud machineries that in recent years led to controversial election results and brought the country to the throes of civil unrest remain intact.

All these further cast doubt on the credibility of the Comelec especially at this time when its trust rating remains low owing to past charges of corruption and its inability to dismantle or reduce to insignificance the cheating machineries. From the very start, the poll body has been engrossed with addressing the "slow process" and "clerical errors" in the manual election system. By its unwarranted attention to the machine, the Comelec appears to have missed the bigger problem of fraud, ranging from vote buying to wholesale cheating, and the bigger challenge of restoring the credibility of the electoral process through an open, transparent, credible, participatory, and voter-friendly system.

2) The poll body itself shows a lack of transparency: It failed to release on time, despite public inquiries, its calendar of pre-automated election activities, as well as the CAC report on the ARMM elections, and other election-related information. This comes as no surprise since Comelec Chairman Jose Melo, a former Supreme Court associate justice who is close to Arroyo, is controversial about violating the citizens' right to public information as exemplified by his refusal - despite public demand - to divulge the Melo Commission investigation report on extrajudicial killings and forced disappearances in 2006. Furthermore, the Comelec decided on the technology without even doing basic things like time-and-motion studies or "change management" as recommended by the CAC. Its calendar of activities is so tight making it not only impossible to follow but also, in case one activity is not implemented on time, will cause the whole process to collapse.

3) Questions have also been raised why the AES was pilot-tested in the ARMM in the first place in violation of RA 9369. The law stipulates that it should be tested in at least two highly-urbanized cities and two provinces each in Luzon, Visayas, and Mindanao – an operation that was supposed to be held in the 2007 elections. "Time constraint" was the reason cited by the Comelec and its advisory council resolved to test the system instead in the ARMM elections which was also subsequently postponed on Aug. 11, 2008. The choice of the ARMM as pilot area also came under criticism: There was actually a no-contest fight in the region with the "victory" of candidates supported by Arroyo and the Ampatuan dynasty a foregone conclusion.

Considering that the ARMM holds the "swing votes" as shown in recent elections, it is likely that the election automation was pilot-tested in that region to determine how the technology can be manipulated by human intervention to favor a candidate – and the regime in power. Next year, the ARMM automated elections is scheduled 3 weeks ahead of May 10, 2010.

4) "Time constraint" was also cited for the Comelec's failure to review the source code[9] of the technologies tested in the 2008 ARMM elections. The CAC said, thus:

> **"Due to the very short timeframe of the whole automated election plan and also due to the late finishing date of the vendor to the source code and configuration of the AES, the Technical Evaluation Committee had no more time to conduct a detailed and comprehensive source code review of the entire AES. The Commission chose to exercise its right under RA 9369 to go ahead with the use of the system without the certification due to extraordinary circumstances."**[10]

RA 9369 (Sec. 11) reminds the Comelec that in the absence of the technical committee's certification "it must submit its reason in writing to the Oversight Committee no less than 30 days prior to the electoral exercise where the AES will be used."

And, despite RA 9369 (Sec. 11), Comelec's calendar for the 2010 elections does not include the review and opening of the source code for the OMR. Making the source code publicly available and subjecting it to comprehensive, painstaking review should provide one vital guarantee to the integrity of the election technology. However, either Comelec or the technology supplier may refuse to divulge it on grounds of "proprietary rights."

**How has the Comelec prepared itself for the AES?**

The Comelec defaulted by its failure to tap the knowledge and expertise of the Filipino IT community including software program developers, systems architects, security experts, as well as computer science scholars. The first activity that the poll body should have done is to convene a national IT conference on the AES from which enlightened proposals on the technology

appropriate to the Philippine conditions with less cost could be elicited. In the words of Pablo Manalastas, former chair of Ateneo's Department of Information Systems and Computer Science[11]:

> **"Why the important players like computer-IT companies, communications companies, software houses, government IT agencies, the academe, and local computer organizations, were not consulted in the design of this all-important IT project is incomprehensible. Even more incomprehensible is why an IT person was not appointed to the Comelec at a time when the Comelec needed an IT expert among its commissioners…It may have the money, but it lacks the technical expertise needed to pull this exercise through to success."**

The culture of consultation and dialogue is outside the territory of the Comelec or in its advisory council. The use of technology to modernize the country's electoral system is crucial and strategic because the public interest is at stake so that interaction with the IT community, computer science academe, and the public at large is important. It is highly irrational that, despite the mounting concerns from various sectors and dissenting voices over the OMR and Comelec's preparations, the Comelec chairman has chosen to declare all further "debates" on the AES over and that the poll body is going full blast on the use of such technology.

Likewise, it now appears that the commissioners have wrongly interpreted the provisions of RA 9369 with regard to the full automation of the elections when clearly it only authorizes the Comelec to adopt and use "the most suitable technology of demonstrated capacity taking into account the situation prevailing in the area and the funds available for the purpose." The law likewise emphasizes a system that encourages "transparency, credibility, fairness, and accuracy of elections." Clearly the OMR technology that it has chosen, aside from being a closed system, fetches a price that is beyond the reach of local IT groups and companies thus technically marginalizing them further from participating in proposing alternative technologies. Had the commissioners opened their doors to the Filipino IT community, they would have found that automated election systems can be developed locally using Filipino ingenuity, at a lower cost and still compliant to the legal requirements with respect to transparency and public counting.

Countries that adopted electronic voting or automated election did so gradually, by phases, and only in some areas – not the whole country at once. Just the same, some of these countries decided to phase out altogether the new technology for its lack of transparency, errors, deficiencies, and vulnerabilities to fraud. In the Philippines, it would have been prudent for the Comelec not to be duped by corporate sales talk and to implement the AES by working on existing technologies first – which have been tested since 1984 when elections were first computerized – followed by post-auditing, drawing lessons and holding intensive evaluations, before deciding on whether to fully automate.

Furthermore, the Comelec is pursuing a very tight calendar for pre-2010 election preparations such as bidding and installing configuration systems. Its calendar has been found to be ambitious but impractical that any failure to implement one activity will have a paralyzing effect on the entire timetable. It will also result in serious political costs, such as postponement of elections or reversion to the manual system for which it is now unprepared.

Based on the calendar, the Comelec will be left with just two months before election to conduct training for more than 200,000 poll personnel and technical operators who will supervise the election from precinct to the national levels. The poll body also needs to develop its capability to conduct voters' education on the OMR which, under the law, is to be held six months before election. Among other questions, poll officials will have to explain to the country's expected 50 million voters why the vote they will be casting will be untraceable under the new technology.

The Comelec's tight but inflexible calendar underscores the poll body's lack of preparedness let alone organizational capability to address the complex and monumental tasks that lie ahead with respect to the automated elections. Any delay in the calendar would affect the Comelec's preparations particularly on the voters' education, which under RA 9369 must be undertaken for six months, including the mock elections and field test demonstration. Any delay would also affect the training programs for elections inspectors and customization of the software and hardware, the voting and the counting machines.

Despite Comelec's claim about the existence of a Project Management Office (PMO) charged with coordinating its "cohesive strategy" for 2010[12], there have been reports pertaining to internal problems and dysfunctional systems inside the Comelec. Many of its key personnel, especially those involved in the procurement and administration of the PCOS (OMR) do not have, as of this writing, a working appreciation of the legal and technical nuances and intricacies of the election technology. Random interviews done by CenPEG with Comelec personnel reveal there has not been much prior orientation and training seminars undertaken for Comelec staff themselves.

Moreover, in the preparation of the RfP-ToR to guide the vendors who paid P1M to participate in the costly bidding, Comelec project management of the AES has practically excluded the participation of the law department and other concerned departments. The law department also serves as the Comelec's Special Bids and Awards committee (SBAC). Vague provisions in the RfP-ToR have elicited countless queries from bidders who complained of constantly changing rules midstream apparently to "please certain favored bidders." As of this writing, there have been a total of 24 Bulletins issued by the Comelec related to the bidding process since its pre-bid conference of April 3, 2009. Organizational problems reportedly have surfaced, one of these is about project management being done without much active involvement of the law department

and other technical staff. Such problems have apparently caused anxieties within the Comelec that is now forced to call for frequent meetings and trouble shootings for problems (including resetting of the opening of the bids to May 4, 2009 from April 27) – all of which could have been avoided had the proper technical and other organizational requirements been put in place earlier. And that's only the national office - what about other preparations at the lower level not to mention the tens of thousands of poll personnel, staff and technical operators who need to undergo seminars, training and meet other requirements?

Compounding all these is the fact that the Comelec until now does not have a working Operations Manual that is a basic organizational requirement in the effective management of any office or agency – whether public or private.

If the country's election manager cannot wield its act together and move forward the much needed technical preparation for the first automated elections in the history of the country, indicators this early show the 2010 polls may yet become a big automated disaster.

Since a largely untested technology will be used for the 2010 elections, it is imperative that there be an independent post-election auditing particularly with the use of the PCOS (OMR). Post-auditing is a requirement recommended or already in place in countries where electronic voting or automated election is used in order to establish the integrity of the election results. If Comelec is absolutely guaranteeing the credibility of its PCOS (OMR) system then it should welcome an independent auditing that will be administered by a committee composed of private individuals and representatives from NGOs of proven integrity and independence.

Another cause for concern is that automated elections in ARMM will be held three weeks ahead – April 20, 2010. This means there are 20 plus days (including the May 10, 2010 national and local elections) where electronic cheating and other forms of fraud can be committed before all election winners are proclaimed (around May 13-15, 2010). There is a clear and present danger that the ARMM "results", among other areas, will be used to deliver swing votes, given that the cheating machinery and dynasties of fraudsters in the region have remained intact.

For the most part, given the exclusion of the country's Filipino IT community in drawing up a viable and "suited to Philippine conditions" election technology for the first AES in the country, Comelec's contingency strategies in case of a system breakdown, electronic cheating, and other glitches are either unclear or absent.

**D. Foreign Interests in the AES**

Embedded as foreign partners of Comelec for its election modernization program are U.S. agencies such as USAID and International Foundation for Election Systems (IFES). IFES's technical assistance and partnership with Comelec dates back in 2004 and this has involved developing strategies for electoral reform and modernization and the training of poll inspectors. In November 2008, IFES sponsored an election technology conference and vendor exhibition that, among others, introduced the latest election equipment and supplies.[13] Other U.S. agencies said to be involved in election projects are the National Endowment for Democracy (NED)[14] and National Democratic Institute (NDI) which are listed in numerous reports as having links with the CIA and said to be active in Mindanao particularly in the Bangsamoro areas.[15]

The use of PCOS (OMR) has been a product of the tie-up between the Comelec and these agencies, particularly IFES. Granting that the U.S. government officially offered such assistance, one can neither discount nor factor out the motives and objectives of such groups in the adoption of this automation technology especially if seen in the self-declared global mission of the U.S. to bring democracy to the so-called peripheral areas of the world's "arc of instability" and to dump surplus capital goods like the OMR machines in Third World countries like the Philippines. U.S. covert and covert role in the election systems of many countries is a known fact, including at the moment Afghanistan, Iraq, Nepal, Venezuela, former USSR republics, and others. In the Philippines, they have been most active and visible in the ARMM and the rest of the Bangsamoro provinces. The possible tie-up in the Philippines between these agencies and some of the bidding companies for the PCOS can be a subject of research and investigation. Let us just agree at the moment that the U.S. has a high stake in the outcome of the Philippine elections at this time. Is this one reason why the Filipino IT community --known worldwide as among the best in the field-- has been almost entirely left out in the national effort to develop a most suitable IT system for the first automated polls in the country?

Indeed, there are constitutional, legal, and political questions with respect to Comelec's partnership with foreign state-funded agencies and foundations. Elections are purely an internal matter and sovereign issue and Comelec should explain why policy recommendations and advice with regard to electoral reform, modernization, education and training are sourced from foreign entities including those that have been much criticized for political meddling in many countries.

Among the bidders in Comelec's AES is Smartmatic, a Dutch-Venezuelan company that has a tie-up with Sequioa, an American company one of whose lobbyists in the Philippines is reportedly former U.S. Ambassador Thomas Hubbard.[16] Sequoia and another bidding company, ES&S International have figured in numerous cases of election technology violations in the U.S. As of May 4, 2009, only seven of the 10 companies that had bought bid requests at P1 million each submitted bid documents. These are: Avante International (U.S.) and its four partner firms (Canon Marketing, Netnode Technologies, DB Wizards,

and Creative Point); Indira Sistemas (Spain); Sequoia Voting Systems (U.S.); Smartmatic (The Netherlands); Anishin, Inc. (Taiwan) and Syrex, Inc. (Philippines); Election System and Software (U.S.) and AMA Group of Companies; and Gilat (Israel).[17]

## Myths

It is not true that the Philippines is lagging far behind in the use of automated elections. As far as we know, Venezuela is the only country that has gone into full election automation.[18] Some 161 countries or 84.2 percent still use manual voting[19]; 60 countries use manual counting, including Austria, Canada, France, Italy, Malaysia, and Spain[20]; while 15 countries use partial technology, including the U.S., UK, The Netherlands, and Brazil. Japan, the world's top IT country, still uses manual voting, while Indonesia which has the biggest number of voters in Southeast Asia generally uses manual technology. Just the same, numerous reports and studies confirm the vulnerability of electronic voting resulting in the forced recounting of votes, special elections, as well as numerous election contests.

Another myth being peddled is a newspaper paid ad of Bagumbayan, which is endorsing the presidential candidacy of Sen. Richard Gordon, claiming that "automated election will modernize our democracy," "will regain the Filipino people's trust and confidence in the electoral process" and "automated election will make us strong as a nation and as a people."[21] Elections are a means to achieving democracy. The way past and current electoral processes are working, this instrumentalist approach to democracy has not achieved its desired goals. Moreover, the election technology adopted by the Comelec arguably will further erode the people's trust in the electoral process - another reason why it will not make the nation strong.

On the economic side, government's import liberalization, foreign investment policies, and over-dependence on imported goods and services have made the country's electoral system wide open to foreign technological imports. Given the global trend in the rejection of non-transparent election automation, the Philippines is turning out to be an alternative market for technological rejects akin to the dumping in the country of toxic products, prohibited drugs, hazardous energy sources such as nuclear power, and ecologically-destructive mining operations.

Instead of promoting foreign entities that buy themselves in for P1M to bid for their software, we should extend support to Filipino business and our own ICT community that are at par with their counterparts and in fact acknowledged leaders internationally.

## E. Economics of the "new technology"

The PCOS (OMR) costs P11.3 billion, with each machine system – which includes the OMR, a computer, and transmission network – fetching at least P150,000. Independent estimates show that a unit can be bought, along with other requirements, at half this price thus drastically reducing the actual budget earmarked for the technology. Why the Comelec and its advisory council are decided on using this technology when there are other less costly models begs an explanation.

The poll body is also allocating P50 million for the transmission costs and P200 million for the 2,000 canvassing units to be deployed in municipalities, cities and provinces nationwide.

The costs mentioned actually correspond to the lease price of the whole system. All the 80,000 PCOS-OMR units will be used for only half a day after which they will be returned to the winning bidder company so that come the next automated election a new transaction and a new allocation will be needed. Other allocations include cost of ballot papers, estimated at P1 billion and 78.17 million for the cost of new ballot boxes, which would be procured via a separate bidding.

Comelec executive director Jose Tolentino, also the Comelec project manager, said in various media interviews that the total purchase cost for 80,000 PCOS units amounts to P11.669 billion, at P145,867 per unit but the poll body would exercise the lease before purchase option, and would rent the machines for P8 billion.

On the finer details, the Comelec's proposed budget includes 70 servers and 70 back-up servers at a unit cost of P200,000 or a total amount of P28 million. Similarly, the budget for canvassing units for use by the Boards of Canvassers at various levels require grade PCs costing P100,000 each when in fact ordinary PCs at a lower price can be installed.

Owners of the new technology together with poll officials and any of the 80,000 operators and software developers are potentially bribable and are potential cheats. This will result in new and bigger forms of corruption and cases of fraud. Several IT experts predict a new form of bribing and cheating should the PCOS-OMR election pushes through – "buying the right to control just five OMRs can win a mayoralty race; multiplying this several-fold, even the presidency."

**III. Alternative and Transparent AES Suitable to Philippine conditions**

Given the high political stakes in the coming elections and the present administration's determined bid to cause the broad legitimate opposition and its allies to obsolescence, it is imperative that there be an alternative system that incorporates the requirements of an open, transparent, credible, and voter-friendly automated election process. In the legal and political context, an open

and transparent automated election system responds to the requirements of the people's right of suffrage and of access to public information as well as the progressive, non-traditional electoral struggle. We should acknowledge Filipino ingenuity which is at par with the rest of the ICT international community.

We should be open to studying automated election systems as proposed by the Filipino ICT community or other Filipino groups that have made studies on automated elections or electronic voting. We should be open to all alternative transparent technologies whether they were developed by neophytes or experts, mass organizations or professional organizations, individuals or groups.[22]

**IV. Other Serious Concerns**

It needs to be mentioned that in the AES, certain key safeguards are yet to be proposed and set in place. Some leading IT specialists and computer science scholars believe, however, that at the current level of automated election technology in the Philippines the installation of a digital signature may help ensure the fidelity of election data. There is a proposed Public Key Infrastructure (PKI) program that can be integrated to the AES system to ensure the authorship and veracity of digested election returns originating from the BEI and other levels. PKI, which generates the digital signature similar to the system used in credit cards by banks, is to be installed by an independent body. Countries still using manual voting, such as Japan, ensure the credibility of their elections through a post-polls auditing system provided by an independent body.

With the very tight calendar of Comelec in preparing for the automated elections, it is possible – as some poll body officials admit – that the poll body may revert to the traditional voting or adopt the OES.

On the other hand, in the PCOS the convergence of many conditions and factors – the high political stakes, the built-in vulnerabilities of the OMR technology, the presence of powerful fraud machineries – will hasten the possibility of external hacking, internal rigging, and other forms of cheating whether wholesale or retail. All these may pave the way for widespread election protests or failure of election. If this happens, the declaration of emergency rule will not be remote leading to the extension of Arroyo power and eventually, charter change.

While there is still time, it is imperative that proposals alternative to the highly-suspect and fraud-prone PCOS (OMR) should be pushed while Comelec should be pressed to heed the undercurrents of contrary opinions and recommended options from the IT community, poll watchdogs, independent governance institutes, and the public at large. The need for an open, transparent, credible, and voter-participatory election system should be greatly emphasized over and above Comelec's narrow, arbitrary, and inflexible approaches.

Under a situation where the PCOS (OMR) system will finally be installed as the central machinery for the first national automated elections in May 2010, it is also imperative for poll watch groups to begin at this early their citizens' task to monitor the elections. As the objective conditions show, poll watching should begin with the preparations set by the Comelec – all the way from procurement, software and hardware configuration, ballot printing, deployment of the machines, and other preparations. The automated election system appears to be so complex yet has built-in vulnerable spots that poll watching may not be centered alone on observing precinct- and canvassing-level operations but should be calibrated at every stage of the new election process.

Better still, all should prepare for possible post-election scenarios as mentioned.

## V. Conclusion

The Precinct Count Optical Scan-Optical Mark Reader (PCOS-OMR) technology chosen by the Comelec goes against the basic democratic principle of "secret voting and public counting." This is because the OMR system makes the counting, canvassing and consolidation of election results hidden from public eye and, hence, lacks any transparency as the Constitution and RA 9369 require. The proclamation of winners will be done in 2-3 days making it extremely impossible to file any election protest which is expected to be widespread – and poll watching almost futile.

Moreover, the Comelec appears to be unprepared and ill-equipped to manage the complexities and uncertainties posed by the automated election system. The OMR technology will most likely lead to wholesale electronic cheating that will, in turn, lead to a possible failure of election with serious political repercussions.

There are alternative technologies that can ensure an open, transparent, credible, and participatory elections as mandated under RA 9369. It is unfortunate, however, that the poll body has shut all doors against further dialogues and debates on the viability of its choice of technology system.

On the other hand, the Comelec has taken no strong measures and safeguards toward reducing if not completely dismantling the powerful cheating machineries in the country. In such a situation, the use of modern technology will not deter – and may even enhance – automated cheating.

**Center for People Empowerment in Governance**
**May 07, 2009**

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**END NOTES**

[1] Comelec press release, March 3, 2009.

[2] "Request for proposal: 2010 elections automation project" (ToR), Comelec, March 2009, p. 15.
[3] "Request for proposal: 2010 elections automation project" , ibid, p. 20.
[4] Election Incident Reporting System (EIRS), a database of the Verified Voting Foundation in the U.S., as cited in Roberto Verzola, "Automating elections: Electronic voting machines have made mistakes, too," updated June 20, 2008.
[5] Jeff Grove, "ACM statement on voting systems," Communications of the ACM Vol. 47 No. 10, Oct. 2004, p. 69.
[6] Ike Seneres, "Possible areas of electronic cheating." Seneres was once the Director of the National Computer Center (NCC).
[7] "Another intel chief named NPO head," Philippine Daily Inquirer, March 19, 2009.
[8] "Post-election report on the use of Automated Election System (AES) in the 2008 ARMM Elections," Comelec Advicory Council, Oct. 2008, p. 25.
[9] The source code is the version of a computer program compiled before it is ready to run in a computer.
[10] CAC evaluation report, p. 18.
[11] Pablo Manalastas, PhD, "Safeguarding the 2010 elections with digital signatures," April 2009, p. 1.
[12] The PMO's formation was announced just on Feb. 22, 2009. See "Comelec sets 2010 'cohesive strategy'", Philippine Daily Inquirer, Feb. 23, 2009.
13 ,,Election technology exhibition" http://www.ifes.org/newsinbrief.html?title=Election%20Technology%20Exhibition

[14] The National Endowment for Democracy, funded by the U.S. Congress, has been suspected in many countries as a front of the Central Intelligence Agency.
[15] The country's election modernization also coincided with the controversial USAID-funded AGILE program that embedded U.S. groups inside a number of government agencies, such as the National Food Authority (NFA), legitimizing their power to come up with policy recommendations. A similar track can be found in U.S.-Philippine security partnership under the Visiting Forces Agreement allowing the entry of U.S. forces in the Philippines in the guise of war exercises and the war on terrorism. Another product of this partnership is the controversial anti-terrorism law the enactment of which allowed U.S. security experts a role in Philippine Congress hearings.
[16] Thomas Hubbard, when he was U.S. ambassador to Manila, signed the VFA in early 1998 with then Foreign Secretary Domingo Siazon.
[17] As of May 6, 2009, six of the bidders had been disqualified. The application of Israel's Gilat was to be evaluated by the Comelec's Special Bids and Awards Committee (SBAC).
[18] The Landes Report, International Institute for Democracy and Electoral Assistance (IDEA), June 2004. http:/www.thelandesreport.com/ForeignCountries.htm
[19] "Voting operations," ACE Electoral Knowledge Network. http://aceproject.org/epic-en/CDMap?question=VO11 04/21/2009
[20] "Vote counting methods," IDEA, http:/www.idea.int/vt/vote_counting_methods.cfm
[21] "Yes, we can!", a paid ad of Bagumbayan, Philippine Daily Inquirer, p. A23. Gordon is the main author of the automated elections law.
[22] One system that can be developed and worth looking into is the "Open Election System" (OES) developed by the Transparentelections.org.ph which can be complemented by the Transparent Automated Procedure of Election (TAP)22. (Please refer to Annex-OES as well as the TAP attached to this policy study.)